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CONTENTS.

MEDICAL PROGRESS NUMBER. A REVIEW OF THE MEDICAL LITERATURE OF 1902.

Internal Medicine. By Jesse S. Myer, M. D.....	1
Surgery. By Willard Bartlett, M. D.....	7
Therapeutics. By Albert E. Taussig, M. D.....	15
Pathology and Bacteriology. By R. B. H. Gradwohl, M. D.....	21
Gynecology and Obstetrics. By Hugo Ehrenfest, M. D.....	25
Pediatrics. By Alfred Friedlander, M. D.....	32
Neurology. By Sidney I. Schwab, M. D.....	43
Genito-Urinary Surgery. By H. McC. Johnson, M. D.....	49
Dermatology and Syphilis. By Martin F. Engman, M. D.....	58
Laryngology and Otology. By William E. Sauer, M. D.....	66
Ophthalmology. By John Green, Jr., M. D.....	70

EDITORIAL COMMENT.

Medical Progress Number.....	77
A Clinical Fiasco.....	78

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JANUARY—DECEMBER, 1903.

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INTERSTATE MEDICAL JOURNAL.

VOL. X.

JANUARY, 1903.

NO. 1.

MEDICAL PROGRESS NUMBER.

A REVIEW OF THE MEDICAL LITERATURE OF 1902.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Progress in medicine does not necessarily imply a step forward, the advancement and demonstration of new theories, the invention of improved methods, the discovery of latent forces, etc., but often a retrograde movement—a retreat from old beliefs based upon false hypotheses, the discarding of time-worn customs and methods, and, above all, the timely interruption of so-called new ideas before they have been admitted to the archives of medical knowledge. Our review must necessarily deal in a measure with the latter class of literature.

It is a very difficult task in this age to present a conscientious review of a year's work in medicine, because of the immense number of publications that appear in all parts of the civilized world. One must necessarily confine one's self to the perusal of a few standard periodicals, with the hope that they will contain, either in the original or in abstract, the important revelations of the year. One realizes only in summing up the literature of a twelve months how much the chaff, how little the wheat. There seems to be a mad rush to print, with "quantity, not quality," the motto. The "demand" for articles is created through the promiscuous establishment of medical journals whose prime object is not altogether the advancement of medicine; the "supply" is often furnished by those who have their own interests at heart, rather than those of their readers.

We shall take up here what we consider to be some of the leading topics worthy of particular mention.

About a year ago Loeffler published an article entitled "A New Treatment for Carcinoma," recommending inoculations with the malaria plasmodia as a possible cure. His recommendations were based upon the statements of Hippocrates and Wenceslaus Trnka de Krzowitz. The former maintained that those who had quartan fever would not have epilepsy, and that if quartan fever developed in those with epilepsy the latter would disappear; the latter in 1775 reported a case of cancer of the breast cured within a few weeks by the development of a double tertian fever. Loeffler suggests that with our present knowledge of malaria, we are in a position to utilize it therapeutically. The disease can be produced by the introduction under the skin of the blood of patients thus affected, or through mosquitoes that have sucked the blood of malarial patients. On the other hand, the disease can be promptly counteracted with quinine.

Other infections have been recommended for the cure of carcinoma, and in a few cases satisfactory results have been claimed, but in these instances the curative agent itself was a dangerous one. Loeffler thinks it possible that the increase of carcinoma in middle Europe bears some relationship to the disappearance of malaria. He states, too, that the literature indicates that carcinoma rarely, if ever, occurs in the tropics, and that physicians of long experience there have never seen cancer.

These statements from Loeffler elicited prompt responses from many physicians practicing in the tropics, who maintain, almost unanimously, that the theory is based on false hypotheses. Spitzly, Prochnik, Breitenstein and others state from observations based on long experience, that carcinoma in the tropics is by no means an infrequent occurrence. They have observed carcinoma and malaria simultaneously in the same person, carcinoma in those who have had malaria, etc., and have never noticed that the growth is influenced, either in course or extent, by the infection. Goldsmith, who lived in Madeira, a subtropical region, for twenty-six years, states that endemic malaria is absolutely unknown there, and that carcinoma is a great rarity. He suggests that if there were a definite relationship between carcinoma and malaria, the former would be more frequent there.

Loeffler's assumptions seem to be groundless, having been based entirely upon the statement of a physician who flourished in 1775; at any rate, reports thus far do not bear him out.

At different times different inoculations have been suggested as a possible cure for carcinoma. Among these tuberculosis and erysipelas may be mentioned. Rokitsansky maintained that carcinoma and tuberculosis never occurred in the same person. Baumgarten reported a case in which inoculations with tubercle bacilli were used in the effort to cure an otherwise incurable case of carcinoma. The cultures were taken from bovine tuberculosis, and their introduction into the organism brought about no changes, either good or bad, in the condition of the patient. Tuberculosis did not result from the inoculation.

The statement of this case was published in corroboration of Koch's theories, presented about a year ago, with reference to the relationship of human and bovine tuberculosis. At the British Tuberculosis Congress, Koch created quite a sensation by maintaining that human tuberculosis differs from bovine tuberculosis, and cannot be transmitted to cattle. A series of experiments were reported, in which he endeavored to prove that cattle inoculated with the bacilli of human tuberculosis would not themselves develop tuberculosis. Though he could not demonstrate the converse, using human beings as subjects, he believed that such was the fact. It is feared by those to whom these experiments were not conclusive that much harm might result from such radical expressions from the greatest living authority on tuberculosis. For Koch said: "*The extent of infection by the milk and flesh of tuberculous cattle and the butter made from the milk is hardly greater than that of hereditary transmission, and I therefore do not deem it advisable to take any measures against it.*" Whether Koch's views were right or wrong, the medical world seems to have taken a very conservative view of the subject. They are evidently not willing to sacrifice their long-cherished theories, though unable to find any weak points in the chain of evidence presented. The past year has witnessed practically the same precautions that have always been observed with reference to the transmission of tuberculosis

from the cow to man. It is well, too, that such conservatism has been universally practiced, even in the face of the unqualified recommendations of such an authority as Koch.

There is yet much to be learned concerning the biologic characteristics of the tubercle bacillus. It is maintained by no less an authority than Weichselbaum that practically all of the bacilli which resist mineral acids, such as the timothy and butter bacillus, that of bovine tuberculosis, and those found in the abdominal tumors of certain fish, etc., belong to the same family as does the tubercle bacillus. It is quite possible that under certain surroundings these different varieties assume different properties. It behooves us, therefore, to take every possible precaution to prevent the spread of tuberculosis.

The proper disposition and treatment of tuberculosis among the poorer classes, who cannot seek climatic changes, has long been a serious problem. It is well recognized that there is but one way to eventually stamp out the disease, and that is through the prompt and thorough isolation of every case as it presents itself. This, however, is in a great measure impracticable, and could only be accomplished through the strictest legislation. An important step has been taken in the right direction by the establishment in some countries of public sanatoriums. England and Germany have been foremost in the establishment of such institutions, and have, in a measure, made it a matter of national interest. Concerted action on the part of all nations could do much toward limiting the ravishes of this dreaded disease. The erection of sanatoriums would be the first step toward the goal desired.

The diagnostic significance of the application of the principles of the Widal reaction in tuberculosis has been widely discussed during the year just ended, and very conclusive evidence has been presented in opposition to the views first promulgated by Arloing and Courmont. It will be remembered that these authorities maintained that the agglutination test in tuberculosis was a diagnostic aid of great significance. They showed through a series of experiments that the blood serum of an animal treated with tuberculin or an attenuated culture of tubercle bacilli, as well as the serum from tuberculous individuals, would cause agglutination of tubercle bacilli in an especially prepared culture. This announcement met with much enthusiasm and received the attention of the leading investigators along these lines. One can readily see the great advantage that would come from a method that would permit of an early diagnosis in tuberculosis. Unfortunately, the results of the investigations of very competent authorities during the past twelve months do not correspond with those of the French observers. Koch considers the test entirely inadequate for the early diagnosis of human tuberculosis. He found that even the serum from healthy horses produces an agglutination of human, bovine and fowl tuberculosis. Gebhart and Torday found the reaction present in 75 per cent. of tuberculous patients and in 35 per cent. of non tuberculous individuals. DeGrazia found that the blood serum of tuberculous persons causes agglutination of various other bacilli, and, therefore, does not consider the reaction specific for tuberculosis. The observations of Donath, Masisus, Beco, Romberg and others agree fully with those just mentioned.

The tuberculin test, as a diagnostic measure, still has its followers; and justly so. Mazzoti compiled a most interesting series of cases, comprising several hundred, in which he employed tuberculin as a diagnostic aid in tuberculosis.

While greatly in favor of the application of this test, he does not maintain that it is infallible. He found that convalescent typhoids often give a positive reaction, though tuberculosis is absent. He is not entirely satisfied that all chlorotics that react in a positive way have tuberculosis. Sometimes the most advanced cases do not respond to the test, because the organism is so thoroughly accustomed to the poison. In two of his cases the reaction was negative after the removal of a tuberculous testicle. He recommends this procedure to surgeons in every case after the removal of a tuberculous organ, in order to determine whether there are other lesions present in the body.

The results of the Widal reaction continue satisfactory, and the statistics concerning the same are assuming a more consistent and tangible form. This is no doubt due to the fact that the technique, which is a most important factor, is more generally understood. Billings of the laboratory of the health department of the city of New York, in the examination of some 2700 specimens, maintains that when there is well-marked clumping within ten minutes, with a serum diluted twenty times, there is positive evidence that typhoid fever exists or has existed in the individual in question. He considers those reactions as doubtful (1) when positive with a dilution of one to ten, and negative with a dilution of one to twenty; and (2) when the reaction is negative with a dilution of one to twenty, and incomplete with a dilution of one to ten.

Zupnik obtained in a very large number of cases most satisfactory results, and claims that when the test is properly made, no icterus is present, and a former typhoid can be excluded, a positive reaction speaks absolutely for the existence of typhoid.

The diagnosis of typhoid fever in children has been attracting much attention of late. The condition offers many difficulties in diagnosis. Frequently a diagnosis is impossible without the positive Widal. Gershel reported eighty-four cases of typhoid in children, with eighty-one positive results.

Jehle found the typhoid bacillus in the sputum of a number of cases of typhoid with slight bronchial complications. He recommends, as a prophylactic measure, more careful attention to the disposition of the sputum from such cases.

Higley maintains that the examination of the stools by Hiss' method gives more reliable results than the Widal reaction.

Seman, Polacco, and Gmelli report very interesting findings in the bacteriological examinations of the roseola spots of typhoid fever. The results of their findings may have a diagnostic as well as a pathological significance. In a large number of cases roseola spots were excised and subjected to careful examination. In nearly every case the bacilli of typhoid were found, and in all of these cases the Widal reaction was present. In a number of cases, however, the bacilli were demonstrated in the roseola spots before the Widal reaction was positive. In those cases of typhoid in which the spots appear as one of the first symptoms, it may be that this procedure will supplant the Widal reaction. At any rate such a harmless method cannot be overlooked. The chief goal toward which medical science is aiming is diagnosis—the earliest possible diagnosis.

Since the application of the Widal reaction as a diagnostic aid in typhoid fever, a large number of cases clinically identical with typhoid have failed to give the reaction. Up to this year it has been a difficult matter for the firm supporters of this test to account for these phenomena. Not only has the reaction been negative in many of these cases, but in some of them the presence of

the typhoid bacilli has not been demonstrable. Cases of this sort have been reported by Coleman and Buxton, Gwyn, Schottmueller, Cushing and others. It has been found that they are not cases of "typhoid fever, without the Widal reaction," as was long supposed, but that they are due to intermediate groups between the typhoid and colon bacilli—in other words, to "paratyphoid" bacilli. The investigations during the past year have been so conclusive that there can now be no doubt that in the future we must deal with a disease clinically identical with typhoid, but due to a different cause. Headache, malaise, the typical temperature curve, vomiting, diarrhea, hemorrhages from the bowel, rose spots, the diazo reaction, in fact all of the symptoms common to typhoid, have been found in these cases. The blood cultures, as well as the stools, have shown the presence of the "paratyphoid" or "paracolon" bacillus. Schottmueller recommends that the term "paratyphoid fever" be applied to the affection. The serum from the patients even in high dilutions causes agglutination very promptly of cultures taken from the blood, but does not cause agglutination of cultures of typhoid bacilli except in very low dilutions. Brill's statistics show 97.9 per cent. of positive Widal reaction in typhoid fever, and Gwyn's about 99.6 per cent. It has been suggested that a large percentage of the cases presenting well-defined symptoms of typhoid, yet giving a negative reaction to the Widal test, are cases of paratyphoid fever. It would seem advisable, therefore, that every laboratory should have cultures of the various paracolon forms for the application of the test in the event that the typhoid reaction is negative. Though right in theory, this does not work out in practice, according to Billings. He used cultures from cases of Cushing, Coleman, Buxton, and Smith, but failed to get positive results. He suggests the likelihood that the serum obtained from cases of paratyphoid infection reacts to its own particular organism. Though the advent of paratyphoid fever complicates in a measure the clinical laboratory methods, it enables us to explain a large number of cases hitherto a mystery. Fortunately the treatment of these cases differs in no way from that of typhoid fever.

Though the observations of A. v. Koranyi with reference to the functional diagnosis of the kidney, were published prior to the period which this review is intended to cover, much of the corroborative investigation has taken place in the past year. It is well, therefore, that information of such importance should be reiterated here. In his investigations concerning the sufficiency of the kidneys, Koranyi found that a disturbance of the function of these organs manifested itself chemically in two ways: In the first place, through a marked decrease of solids in the urine, and secondly through a retention of solid molecules in the blood. In other words, there is a diminution of the molecular concentration of the urine, and an increase of the same in the blood. This can be best determined through a determination of the freezing point of the liquids in question. The freezing points of the normal blood and urine being known, any variation from the normal would be due to an increase or decrease of the molecular concentration. He found in these experiments that when the freezing point of the urine is lowered to 0 to 1° C., and that of the blood raised to 0.58° C., there is a disturbance in the function of the kidney.

These observations have been corroborated by a number of competent authorities, chief among whom may be mentioned Casper, Richter and Kummel. Casper and Richter maintain that other methods for determining the functional

power of the kidneys, such as the determination of the eliminated nitrogenous substances, the decreased elimination of the chlorides, the methyleneblue test, etc., are insufficient, and cannot be compared with this method in point of reliability.

Kummel's observations are of a more practical nature, and the results obtained by him prove the efficiency of the method. He determined the freezing point of the blood in two hundred and sixty-five cases of surgical diseases of the kidneys. He performs no nephrectomy without first making this determination. The normal human blood has as its freezing point $0.56^{\circ}\text{C}.$, lower than that of distilled water. He avoids operation when the freezing point of the blood is over $0.56^{\circ}\text{C}.$ Even 0.58° to 0.59° are considered dangerous. $0.55^{\circ}\text{C}.$ to $0.56^{\circ}\text{C}.$ may be considered within the normal boundaries. He maintains that nephrectomy in unilateral diseases need not be feared if these rules are observed. When there is any doubt as to which kidney is involved, or as to whether both kidneys are involved, ureteral catheterization should always be carried out. The freezing points of the segregated urines, together with the chemical and microscopical examinations will locate the trouble. There is no longer any question as to the present status of kryoscopy in both medicine and surgery. It seems to add the one link in the diagnostic chain that has long been desired. Casper and Richter have shown that normal kidneys eliminate practically the same quantity of chlorides and nitrogenous substances, and the same quantity of sugar after injections of phlorydzin, and that the urine simultaneously voided from normal kidneys has relatively the same molecular concentration. Catheterization of the ureters renders it possible to obtain the urine from both kidneys simultaneously.

After the trouble has been located through these means, the kryoscopy of the blood indicates whether or not nephrectomy is permissible in unilateral cases. The chain is practically complete.

In recent numbers of the *Centralblatt fuer die Grenzgebiete der Medizin und Chirurgie*, Adrian gives a most admirable review of the literature bearing upon the catheterization of the ureters.

In spite of Edebohl's recommendations of surgical interference in chronic parenchymatous nephritis, these cases still remain within the domain of internal medicine. The reports from other sources are as yet too indefinite to justify our accepting unqualifiedly all that the author claims for his method of curing nephritis. In view of the pathological anatomy of the kidney in nephritis, it is difficult to reconcile one's self to the belief in a complete regeneration of the involved tissues.

In the second essay of his collection of clinical excerpts, v. Noorden claims that the routine use of milk as a food in acute nephritis is not justified. He states that quantities such as are frequently used, four and one-half to five litres, contain too much albumin and frequently phosphoric acid. He advises not more than one and one-half litres daily with carbohydrates. In interstitial nephritis, he sees no objection to the ingestion of both light and dark meats. In this he is borne out by Kaufman and Mohr, who find that the dark meats do not contain any more extractives than light meats, and that individuals excrete no larger quantities of nitrogenous substances after a dark meat diet than after a light meat diet.

This year has added its quota of new theories with reference to the causes of diabetes. DeRenzi attributes it to the lack of certain ferments in the organism

necessary to the oxidation of carbohydrates. He believes that the disposition of the carbohydrates depends upon the presence of certain ferments in the various glands and other tissues of the body. Through the increased function of these organs and their consequent exhaustion there is a lack of these ferments.

Blum would account for some cases of diabetes through an insufficiency of the suprarenal gland. In a series of experiments he succeeded in producing glycosuria in dogs and rabbits through the subcutaneous injections of suprarenal extract. He cannot offer a satisfactory explanation, however, for this phenomenon.

Through the work of Opie, Weichselbaum, Stangl and others the pathology of pancreatic diabetes has been greatly elucidated. There can be but little doubt that the so-called Islands of Langerhans in the pancreas have much to do with the conversion of carbohydrates in the organism. In fifteen cases of diabetes of pancreatic origin, Weichselbaum invariably found these areas involved; in some there was atrophy and vacuolization, in others sclerosis, calcification, etc.

D'Amato reports two cases of diabetes insipidus which were gradually transposed to diabetes mellitus. In the one case the transmission required several years, in the other but one year. There are but four cases of the kind reported in the literature.

Much work is being done on metabolism in diabetes. Little that is of practical interest has been added to our knowledge during the year, however.

In closing we would pay a passing tribute to the memory of four of the most renowned internalists of the century, who have died during the past year: Hugo v. Ziemssen, Carl v. Liebermeister, Adolf Kussmaul and Carl Gerhardt. They represented the highest art in the field of modern medicine, in which they were pioneers. Their heritage to posterity is a *science* of medicine, which they labored unceasingly to perfect.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

To correctly summarize the advances in surgery, as expressed in the literature of the past twelve months, is by no means an easy task for several reasons. If the reviewer must confine himself to a reasonable amount of space, and desires to do more than mention the various subjects at his disposal, then he must leave out of consideration a very large number of themes altogether and consider briefly only those which, in his judgment, have been the favored objects of the most original research, and those in which the most practical advance has been made. The reviewer further naturally pays the most attention to those matters which interest him as an individual; and this may bias his opinion as to a choice of the subjects which, in the best interest of the general reader, should claim his attention. To economize space we have purposely avoided title reference to the articles treated; still this can cause no difficulty for the reader who may wish to consult the "original" of something in which he may be especially in-

terested, as any medical index will supply this knowledge in its author's index, or any desired title may be secured through the INTERSTATE JOURNAL.

All will agree that more progress has been made in the diagnosis and treatment of various affections of the kidney than in any other one field. The past year has seen, in the diseases of this organ, a palliative medical care change more and more into a radical treatment with the knife. But by this is to be by no means understood that the medical man has played a minor role in the transformation which was most welcome to him as well as to the surgeon.

Straus has shown that transient increase of pressure within the kidney capsule may lead to attacks of colic which closely simulate the trouble due to impeded outflow of urine, though nothing of the sort be the matter. The same author had occasion to do a nephropexy three times on the same organ within seven years; a tuberculosis was seen at the first operation, but at the last no traces of it were to be found, and the possibility of renal tuberculosis undergoing spontaneous cure was further proven by twelve examinations of the separated urines from the two kidneys of the individual in question. Schmieden has recently published the results of no less a master in this field than Schede, and expresses the latter's opinion that nephrectomy is to be preferred to nephrotomy for hydro- and pyo-nephrosis, while the opposite holds good for stone or pyelitis; the lumbar route is further to be preferred. Jessop, in the Bradshaw lecture, declares that out of twelve children on whom he operated for malignant tumor of the kidney but one lived as long as two and one-half years, and that none were cured. He considers the abdominal route the better for large growths, since it allows of a better pedicle being formed. Edebolds has created a great sensation by his startling claims that a number of varieties of nephritis can be cured by merely stripping the capsule from the organ; it is to be hoped that time will prove that he has accomplished much, but at present a number of authorities desire to know more about the diagnosis than has been furnished by our American surgeon. More exact and logical is the proposition of Lannender to bisect as well as decapsulate a kidney in which are miliary abscesses, and thus allow for the escape of urine and detritus from the necrotic patches. He has seen cases of acute complete suppression successfully combated in this way.

Absurd as it must seem at first thought, acceptance must be granted the dictum that the laparotomy is the only rational operative procedure in rupture of the kidney. Waldvogel has given the subject a careful study and assures us that the course of most of these cases teaches us the truth of the above. Of course, the explanation of this all is that an injury sufficiently severe to rupture the kidney, causes at the same time intra-peritoneal lesions which always demand immediate attention. Kuemmel, who has done more than all the other surgeons in the line of freezing blood and urine, tells us that pain and hemorrhage are the two main symptoms which should and do bring the kidney cases to the surgeon. Then the segregated urines alone can show us whether or not the affection is unilateral or not; a positive result always speaking for the conclusion that we have to do with something more than a medical nephritis, viz., stone, tumor, etc. We have been taught by Straus that the two healthy kidneys secrete exactly the same amount in a given time; this is the fundamental knowledge upon which our comparative examinations in pathological conditions must depend for their diagnostic value. Splitting of the kidney will now be undertaken

with a very different feeling since Langemak has shown us that every time this is done there is an extensive infarct formed, this depending for its size upon the dimensions and importance of the artery or arteries severed. The arteries of this organ are, in the strictest sense of the word, "end arteries," hence the experiments of Langemak could have but the one outcome. His work was done upon seventy-five rabbits, which were allowed to live from one-half hour to two hundred and twelve days after the splitting.

In trying to explain the occurrence of *cleft-palate*, we have been obliged to content ourselves with the knowledge that a tumor of the tongue or a mere misplacement of the unruly organ during intra-uterine existence may lead to this most unfortunate disfigurement; but lately, Fick has further cleared up the matter for us by his explanation that the embryo may keep a hand in such a position as to prevent the coalescence of the two lateral halves of the arch.

The matter of narcosis has attracted no little attention during the last year. There have been at least three devices prominently brought before the surgical public with the intention of mixing oxygen and chloroform in such proportion as to prevent the unpleasant and dangerous symptoms which arise from the use of chloroform alone.

Roth-Draeger claims that patients pass under the influence of the drug very rapidly and quickly when his machine is used, the pulse sinks slowly away, its beats remain strong and regular and he considers such a narcosis perfectly safe with any weak patient who could not possibly stand chloroform alone. Some very interesting work has been done by Horff with a new anesthetic which is injected under the skin. This author uses a mixture of morphine and scopolamine, making three injections, the first four hours, the second two hours, and the third a half an hour before the operation. He saw bad effects of the drugs in but one instance, that patient being affected with heart disease.

Crile has made some most interesting experiments with cocain and has been able to draw practical conclusions which would seem to have a decidedly practical value; for instance, he says that an injection of the drug into a nerve trunk prevents any shock which would otherwise be caused by severing the nerve beyond the point of injection, which is certainly of value in amputation. He has noticed further that the injection of cocain into the vagus nerve prevents cardiac inhibition when this nerve is irritated during operations on the neck. Cocain when injected into a vein causes contraction of the abdominal vessels and thus renders the handling of the intestines a much safer performance than it would otherwise be. Ethyl choride has found considerable favor during the past year as a general anesthetic. Malherbe has found that a patient can be brought under its influence in fifteen seconds. He has used it seven hundred times on patients between the ages of two months and sixty years, and has seen no dangerous effects. Other French investigators, especially Professor Girard, have called attention to the fact that this drug, like all others used for the same purpose, has certain dangers connected with it, so he says that it should not be used for more than five minutes at a time and that as little as possible of the drug be given; so it is seen from the above that the subject is by no means settled.

The matter of nourishing and stimulating patients who cannot take anything into the stomach has also been very properly before the surgical writers during the last twelve months. Reach has found that dextrin is more rapidly absorbed by the rectum than is any other substance with which he has experimented, it

having in this particular decided advantages over cane sugar and grape sugar.

The use of grape sugar in 5 per cent solution is warmly advocated by Lannender in cases where we have been in the habit of using merely saline solution. This last named author mixes the two, and has found that weak patients are nourished as well as stimulated thereby. The idea is certainly a good one and deserving of your careful consideration. More than the usual amount of attention has been paid to saline and the various use of the solution. Ochsner makes an extensive use of nytrol per rectum, giving his acute appendicitis patients such feeding as long as there is any tendency to nausea.

The various blood examinations for diagnostic purposes have been increasingly often. Schrittzler was the first to make the statement that all acute appendicitis cases presenting decided leucocytosis, are purulent. On the other hand, he says there are cases of acute perforation with no pus and consequently no leucocytosis, but no one doubts that these cases are the proper subjects for surgical treatment.

Much that is instructive as well as of practical value has been determined concerning abdominal drainage, which will be taken up more particularly in connection with new advances in the surgery of the abdomen.

The various writers are still completely at variance regarding the matter of abdominal drainage. The one elevates the head of the bed while another urges the patient to have the foot of the bed high; thus it is plain that the two are not endeavoring to work in the same direction.

One says to flush the cavity with salt solution, while the other says to dry it out; one advises us to make counter openings behind, while the other says it is a mistake.

One school says use tubes, while another thinks that the patient's only salvation is to be found in the use of gauze drains. Clark believes less in outward drainage than does any other of the past twelve months; his experiments convinced him that the natural and rational drainage of the abdominal cavity is inward; that is, through the diaphragm, and he has shown that small, solid particles are absorbed by the peritoneum in a very short time, and are distributed to almost all parts of the body. He says that there is a steady flow toward the chest, no matter what position the body may be in. He believes that a great many germs may be in this way distributed to different parts of the body without doing the patient any harm, and he considers it a mistake to do anything calculated to interfere with the process. He washes out the cavity and leaves a large amount of saline solution therein, claiming that next to nothing is accomplished by attempting to drain in an outward direction.

Many studies of the lymphatics have been made during the past year. One of the nicest articles on the excision of the nodes in the neck, which has appeared in the recent past, is that by Mitchell; there is nothing decidedly new in it, but the descriptions and illustrations render this difficult operation comparatively easy. Experience recently gained in v. Bergmann's clinic teaches that general miliary tuberculosis may result from the removal of cervical nodes similarly involved; this was observed in three cases, and it would seem from a study of the literature that no similar ones have been described previously. Italian investigators have found that it is possible to cause lymphatic disease by rubbing tubercle bacilli into the intact skin or mucous membrane; in this case the degree of general involvement depends upon the dose. It is possible, say

the investigators, to gradually increase the response of the lymphatic nodes until a certain degree of immunity is attained.

There has not been the usual amount of study given to the subject of aneurism during the past twelve months. Vignolo finds that there is a decided tendency to spontaneous healing in arterio-venous aneurisms, it must be stated. Wiring, etc., seems to attract no more attraction.

On the subject of hernia some most interesting reports have been given out: of these the most extensive are those from the clinics of Albert, Czerny and Coley. All of these relate to the results of the Bassini method and surely attest to what can be accomplished in such cases. Estor has written an instructive article on strangulated hernia in children. He says that the mortality is less in them than in adults, and says he finds after waiting three or four days that the constriction is usually not as pronounced as in adult life.

Krieger has concluded after most extensive investigation of the subject that hernia cannot be cured after the twentieth year, and he as well as a large number of others agree that the main indication for operation, all other things being equal, is the patient's desire relative of his trouble.

A subject on which we have little information is that of the phrenic nerve in relation to injuries and disease.

In 1902 Schroeder published his studies in this line, and shows that the only symptoms of division of the nerve on one side are rapid breathing and increased height of the diaphragm. After three weeks of this rights itself. When both of these nerves were resected, an inverse type of abdominal respiration was seen, and the diaphragm was found at autopsy to be atrophic in the region supplied by the nerve which had been injured. He concludes from his experiment that this muscle is not absolutely necessary to respiration.

One interesting point has come up during the past year with regard to the cause of gastric ulcers. Schamer found that he could cause them by ligating and resecting operation of the omentum, which is not only interesting, but at the same time valuable as a step toward clearing up what has been a very obscure subject.

The surgery of the mediastinum has attracted some attention, though nothing absolutely original has been presented, but still one operation deserves a passing word. Poirier removed a sarcoma from the anterior mediastinum through a "U" shaped incision with the base above. He exposed the large vessels and other strictures in this region, but by blunt dissection was able to remove the growth with no serious consequences to the patient, thus proving that this region can safely be invaded if only a proper amount of care be taken in performing the operation.

The removal of tuberculous mesenteric nodes is certainly rare, and hence we give mention here to one such operation which was recently performed by Helferich. As may be expected, the blood supply of the intestines was so much interfered with that it was found necessary to remove 50 cm. There was a perfect recovery, and three and a half months latter the patient had gained twenty-four pounds. It seems that there are only two other such cases in the literature.

Some interesting work has been done upon the biliary passages, though it cannot be said that much that is really novel or original has been attempted or accomplished. Hans Kehr, it must be admitted, did something which he claims to have been the first to do, when he succeeded by a plastic operation in closing a large defect in the wall of the common duct. In this case the common

duct had been "angulated" by the traction which was necessary in exposing the gall-bladder for the removal of the latter; then in clipping the cystic duct a large part of the wall of the common duct was caught in the scissors. To remedy this latter, Kehr cut a pedunculated flap from the two outer coats of the stomach, and then swung it around and succeeded in sewing it so well in the new position that it healed there without a leak. The stomach wound was closed by a suture and healed without incident. Hildebrand reports an operation which, he writes, has been performed but seven times. In a case where a fistula had persisted for a long time, he made a cholecystogastrostomy, and cured his patient. In none of the seven cases was there any disturbance of the ordinary functions of either stomach or biliary apparatus. In consequence, Hildebrand feels justified in recommending this operation in all cases where adhesions prevent one from making a union with the small intestine. He no longer does the old operation which involves the colon, since we know how dangerous may prove the infection of the bile-ducts from the contents of the large bowel. Beck managed to control hemorrhage perfectly in the removal of a large angioma of the liver in the following ingenious manner: He tied the pedicle off with a rubber ligature, and then brought the stump outside to be treated in very much the same way as was formerly practiced upon the uterus after the removal of a fibroid. The patient recovered, though it naturally took a very long time. Then Beck made a number of interesting experiments on dogs, succeeding in resecting a large portion of the liver, and combating hemorrhage by using the borders of the abdominal wound to compress the pedicle, which was fastened between them by through-and-through sutures. These latter went through all the tissues to the skin, but it was sewn over the whole stump, thus making a primary closure. The idea is certainly worthy of a trial on the human. A good method of palpating the liver region has been recently proposed by Thomson. He has the patient sit on a chair and bend over forward until the forehead rests upon the back of another chair. In this position the abdominal muscles are so relaxed that much more is to be felt than in the ordinary postures that have been used for the examination of this part of the body. By way of justifying the removal of the gall-bladder for cancer, it may be well to cite the case recently reported by Woerner, in which he removed the bladder, the woman remaining free from recurrence for two and a half years, or up to the time at which she was shown. It is not only important, but interesting, to know the results of ligating the different blood vessels of the liver, and this matter has been worked out by Ehrhardt, who communicated the results of his experiments to the last congress of German surgeons. He showed that the ligation of large branches of the portal vein is without serious consequences. However, the same treatment of the parent trunk leads to death in a few hours. Ligation of a large branch of the hepatic artery leads to necrosis of a correspondingly large portion of liver tissue, and usually death of the animal results.

It is no exception of the general rule to say that this past year has been prolific as far as the literature of appendicitis is concerned. There have been a number of good ideas advanced and they are presented to the reader that some practical benefit may result. Rolenow made interesting experimental studies in the production of the disease in rabbits.

He found that various changes which we know can be brought about when the appendix is ligated, sharply twisted upon its axis or its blood supply cut

off. It is to be regretted that this interesting article is in the Russian language and that we have access only to an abstract. Sonnenburg has published some interesting data concerning the lung complication in the disease. In one thousand cases he saw but fifty times the results of thrombosis and embolism. His acceptance of it is the usual one, viz., that the veins in the vicinity of the field of operation, by being disturbed or stretched, cast into the general circulation plugs which have already formed in them. This happens when the operation is performed in the interval between attacks, and diagnosis is the first consideration, for the treatment depends upon it. The patient must be made to set up right away and have morphine for the pain, but under no circumstances heart tonics. Roux gives interesting points on the removal of the appendix during the interval, and fixes it as an absolute rule to wait at least six weeks after the last attack, and says that it was found necessary in one instance to wait a number of months when he wished to be sure to avoid pus. In six hundred and seventy operations reported by him there were but two deaths; surely a very good record. No one can be said to have enjoyed to the fullest the study of appendicitis from the surgical standpoint, who has not read the little short of dramatic description which Riedel gives concerning his experiences of the past few years in this line. He lays particular stress on the fact that clinically a case may be most patent, where indeed the only change that is ever found in the little organ must be discovered with the microscope. This would tend to make one feel guilty for criticising the surgeon who has removed an organ that was not buried in adhesions. As to a prognosis, with the belly open, Steinthal says that he lays great weight on the appearance of the gut; in an acute case, a well contracted intestine gives a far better outlook as far as recovery than does one in the opposite condition. Much more of interest upon this subject has been written than can be even mentioned here.

The subject of peritonitis has received a fair amount of attention and there have been brought to light a number of facts which deserve our earnest consideration in a paper on the progress made during the past year. Brunner showed that a certain amount of the stomach contents could be injected into the cavity of a rabbit without causing the animal's death. He found, however, that this was only true of the stomach of healthy people; when he injected material that was not acid in its reaction it took a very much smaller quantity to kill the animal, and when the material was taken from a cancer patient it took but very little to accomplish this.

Friedrich made quite an extensive study of the causes and treatment of peritonitis, and in his conclusions states that the usual process of draining, etc., is absolutely of no use if the extremities have become chilled, because these symptoms showed that the heat centers in the brain have already become so affected by the poisons that there is no possibility of them recovering.

In describing his method of drainage, Rehn says that it is a great mistake to attempt to accomplish this by keeping the cavity wide open, but prefers, on the other hand, to sew up everything excepting the opening which is necessary for tubes and gauze to go through, otherwise he claims that the intra-abdominal pressure will not be sufficient to drive out the pus, etc., contained.

Doyen writes that he relieves the intestinal stagnation by making the permanent opening in the upper part of the small bowel.

Where this has been properly done he has always seen the rapid disap-

pearance of the symptoms of a peritonitis which brought on the obstruction. The same point is taken by Heidenhian, who states very clearly that he has never seen a single case of recovery where the disease had become general. In his recent work on peritonitis, Lennender informs us that the parietal peritoneum is very sensitive, but that the viscera have no nerves for touch or pain, but when the attachments of these are stretched, then there is exquisite suffering. He considers that stomach and small intestine can be rendered practically sterile by the administration of sterilized food and by lavage. This is, however, not true of the colon.

As regards the stomach there is not very much that is really new to be recorded. Some valuable statistics have been collected, and in as far as they are always of value as a guide to the surgeon, a number of the most important will be offered. Langemamm examined one hundred and eighty-nine lymph nodes in twenty cases where the stomach had been taken out, and finds that the presence of cancer nodes is so rarely missed that it is necessary to remove them all in every case. It is not necessary that they should be enlarged; indeed, he found cancer in those which were not increased in size at all, and which certainly could not have been felt as enlarged.

Kroenlein gives a comparison of the results which have been gained in his practice by operative and non-operative treatment; his material consists of two hundred and sixty-four cases; in seventy-five of them he merely opens the abdomen to make the diagnosis, in seventy-four he made a gastroenterostomy, and in fifty of them he cut out part of the organ. He was able to keep in touch with 95 per cent. of his patients, and consequently has learned all that it is necessary to know about the results.

His conclusions are that in such cases, if no operation is done, the disease will lead to the patient's death in about twelve months; if an opening is made between stomach and intestines, life will be prolonged about three and a half months, and if a portion of the stomach is removed the patient's life will be prolonged about fourteen months. Some new work upon the stomach has been done by Reerink which has taught a number of valuable lessons in transplantation of large intestine into stomach defects. He found that it was absolutely necessary that the affected gut remain in connection with its own vessels, and when this was the case that they kept it perfectly nourished. Further, as soon as it was cut off from its blood supply it became digested at once. This is certainly an interesting point and may be a step in the direction of explaining gastric ulcers, etc.

It is a grateful task to write of the progress that has been made in the surgery of the intestines during the twelve months just past, since the two leading surgeons in this field have seen fit to favor us with their results.

Of these two, Mikulicz states that in the acute obstruction produced by tumor it is far better to merely make a colostomy, and later, after the patient has recovered his strength, to cut out the diseased portion. In cancer of the large intestines he considers the operation at two sittings the normal procedure. Formerly he brought the tumor out of the abdominal cavity, and one or two days later cut it off. Now he removes it at once, and reunites the bowel at a later period by means of the crashing clamp. He warmly advises operation in these malignant cases, because he has seen patients remain healthy as long as fifteen years after operation.

The other of the two great men mentioned, Hochenegg, has published the results of a large number of cases, and he considers that the removal of tumors of the large intestines should be done only in the way described by the preceding surgeon, and says that this is for the best interests of the patient, and that his best results have been obtained by adhering to it.

It would be only a pleasure to write of what has been done on the heart, air passages, male genitalia and other special regions which have been the seats of original work, but further reviewing would carry us beyond the limits which must be imposed on an attempt of this nature.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The year 1902 was not distinguished by any startling therapeutic advances. A large number of new drugs were offered to the medical profession, but most of these still await confirmation of the beneficial effects claimed for them. Many therapeutic procedures advocated in past years have been carefully tested, and the claims of their adherents confirmed or disproved. The most significant and promising of the recent work in therapeutics concerns itself with serum-therapeutics and its related branches.

The value of antistreptococcus serum is still the subject of much dispute. A considerable number of cases of puerperal septicemia were reported during the past year in which the beneficial action of the serum was striking. The patient's temperature slowly falls, the pulse grows stronger, and the general condition markedly improves. Similar good results have been obtained in streptococcus pneumonia and in the mixed infection of pulmonary tuberculosis. On the other hand, other observers have failed to obtain any therapeutic effect from the serum. The cause of this divergence of opinion may be twofold. On the one hand, physicians do not sufficiently distinguish between a staphylococcus infection and one due to streptococci: it is manifestly the latter alone that can be favorably influenced by an antistreptococcus serum. Moreover, it is now certain that there are many species of streptococcus pyogenes, and it is highly probable that an anti-serum obtained from one species or group of species, while very efficient in septicemias due to the streptococci from which it was obtained, would fail when applied in cases of invasion by a different species. As yet, however, the subject is a very dark one, and requires further elucidation.

In an instructive paper read before the Berliner Medicinische Gesellschaft on April 23d of this year, Menzer reported his experience with antistreptococcus serum in acute and chronic articular rheumatism. As a result of his bacteriological investigation of over one hundred cases, he came to the conclusion that both acute and chronic articular rheumatism are due to a streptococcus infection, and are closely related to the common streptococcus anginas. He made his own serum, obtaining his infectious material from the tonsils of a rheumatic patient. The streptococci so obtained were grown on ascites bouillon, and with these cultures large animals were immunized in gradually increasing doses. The

serum obtained from these immunized animals is rich in antitoxin corresponding to streptococci obtained from the rheumatic patient. When injected into patients suffering from acute articular rheumatism, the serum caused a preliminary rise of temperature accompanied by an increase in the articular pain and swelling. This reaction disappeared in a few days, and the patient was discharged cured in one or two weeks. Relapses, so common after salicylate treatment, did not occur. Similar, if less striking, results were obtained in chronic articular rheumatism and in a case of pulmonary tuberculosis with mixed infection. Senator was able to confirm the good results obtained with Menzer's serum, but warns against drawing hasty conclusions in the therapy of acute articular rheumatism, since no disease is so apt to show sudden improvement or the reverse, independent of medication. One significant feature observed in Menzer's cases was the reaction following the injection. This proves that it is not a pure antitoxic serum, which should never produce such a reaction. Marmorek's antistreptococcus serum, however, which produces no reaction, is also quite valueless in rheumatism.

In scarlatina, the use of the antistreptococcus serum does not seem to have grown in favor, and the good results which the first experiments with this therapy promised have not been confirmed by later experience. An interesting suggestion regarding the therapy of this disease was made by Engel in connection with an unusually severe case. The resistance of the organism to infectious diseases depends upon the presence in the blood of two substances: the complement, present in normal blood, which has the power of destroying the infecting micro-organism when attached to the latter by means of the second essential substance, the amboceptor, which is slowly increased in quantity during the course of the disease. Proceeding from the hypothesis that in fatal cases the cause of death might lie not, as is usually assumed, in the insufficient development of amboceptors, but in the absence or destruction of the constituent of normal blood, the so-called complement, Engel injected into a child desperately ill with scarlatina and diphtheria 8 c. c. of fresh normal human serum that he happened to have on hand. The effect was a strikingly good one, although an abscess formed (not at the spot where the normal serum had been injected) and had to be incised. The child made a prompt recovery. While definite conclusions cannot, of course, be drawn from a single case, the above observation should lead to further trials. It is of interest in this connection to observe that Wassermann was able to save guinea-pigs inoculated with a lethal dose of typhoid culture from death if he injected 3 c. c. of normal cattle serum. Whether such large doses—this would correspond to 150 c. c. of serum for a child weighing fifty pounds—are necessary in human beings can only be settled by experience.

On the whole, the attempt made in the past few years to treat typhoid fever with antitoxic serum must be said to have resulted in failure. The typhoid bacillus does not secrete a soluble toxine as do the bacilli of diphtheria and tetanus, and accordingly it is not possible to produce an immunized animal with a blood serum rich in typhoid antitoxin. Two notable attempts have been made to overcome this difficulty. The most promising is that of Professor Wright of Dublin. He inoculates healthy human beings with a culture of typhoid bacilli sterilized by the addition of lysol or carbolic acid. Since it is the bodies of the bacilli themselves that contain the typhoid toxin, a certain amount of the latter is thus introduced into the organism and produces a febrile reaction, as in vac-

ination. The result is a relative immunity to typhoid fever, closely resembling the immunity following vaccination for small-pox. Wright's method was tested on a rather extensive scale during the Anglo-Boer war with what were, on the whole, very satisfactory results. The reports on this subject are too extensive to be related in detail here; they may, most of them, be found in the various issues for 1902 of the *British Medical Journal*. A fair sample is the experience of Major Birt at Harrismith, in Natal. Of nine hundred and forty-seven cases of typhoid fever in uninoculated individuals, one hundred and thirty-five died, a mortality of 14.25 per cent. During the same period two hundred and sixty-three patients who had been inoculated with typhoid vaccine, for the most part six to eighteen months previously, contracted the disease. Eighteen of these cases proved fatal, a death rate of 6.8 per cent. Among the uninoculated the average duration of pyrexia was twenty-eight days; among the inoculated, fifteen days. In 24 per cent. of the former there occurred relapses, but in only 6 per cent. of the latter. No patient who had been inoculated less than eight months before he contracted the disease died. The results obtained elsewhere in South Africa have been similar, so that a certain amount of protection must be conceded to inoculation with Wright's vaccine.

The use of Jez's anti-typhoid extract is based on a somewhat different theory. Jez proceeds on the theory that, in the immunization of animals with typhoid bacilli the "typhoid antitoxin" is stored up, not in the blood serum, but in the cells of certain organs. His extract is prepared as follows: Rabbits were immunized by means of intraperitoneal injections of bouillon cultures of living typhoid bacilli, until the injection was no longer followed by a febrile reaction, showing that the animals had become immune. Two or three days after the injection they were killed; the thymus gland, spleen, bone marrow, brain and spinal cord were taken out, rubbed up with salt, alcohol, glycerin, a little phenol and some peptone and allowed to stand on ice for twenty-four hours. The mixture was then filtered and ready for use. With this filtrate Jez claimed to have treated eighteen cases of typhoid fever with uniformly and strikingly good results. On the whole, his results have been confirmed, at least to a certain extent, by later observers. Among others Eichhorst, of Zuerich, used the extract on twelve cases of typhoid fever. Most of the cases treated were free from fever after four or five days, and remained so. The improvement of their general condition was striking. Semi-conscious patients brightened visibly. The spleen, however, shrank more slowly and, therefore, the patients were kept on a liquid diet until this organ was no longer palpable; long, therefore, after they had been free from fever. In two cases relapses of brief duration occurred, for which also the anti-typhoid extract was used with good results. It would seem, then, that in Wright's vaccine we have a promising prophylactic agent against typhoid, and in Jez's extract an equally promising therapeutic agent.

Various attempts have been made from time to time to cure carcinoma by means of the artificial production of infectious diseases. Thus Fehleisen, proceeding from the observation that cancers sometimes disappear after an attack of erysipelas, has advised the inoculation in hopeless cases of the streptococcus of erysipelas. A number of successful results have followed the use of this method. It has, however, chiefly on account of the impossibility of controlling the erysipelas once set up, since been abandoned for the use of the toxins themselves.

Loeffler, in studying the statistics of carcinoma, believed that he could note an incompatibility of this disease and malaria: that countries or races that suffered greatly from malaria were relatively free from carcinoma, and *vice versa*. Accordingly he advised the artificial production of malaria, either by means of direct inoculation with malarial blood or by means of bites from infected mosquitoes, in cases of carcinoma. This article has resulted, during the past year, in the publication of great masses of statistics relating to the occurrence of these two diseases. Most of them seem to show the incorrectness of Loeffler's premises. Those portions of Italy, for instance, in which malaria is most prevalent, are by no means the ones freest from cancer. Even in the tropics, where malaria is universal and cancer rarely seen, this phenomenon must be referred to the unwillingness of the native women, who make up the bulk of cancer cases, to consult a European physician. On the other hand, in a recent meeting of the Hamburg Medical Society, Dr. Wagner reported a case in which extirpation of a sarcoma of the testicle had been followed by numerous metastases. Acting upon Loeffler's suggestion, the attending physician injected some defibrinated blood obtained from a malarial patient. Twenty-one days later the first chill occurred and the parasites were found in the blood. After an interruption, due to the fears of the patient, a second inoculation was made which again produced typical tertian malaria. The tumors diminished strikingly in size, but at the date of publication had not yet entirely disappeared. On the other hand, Dr. Launstein, at the same meeting, reported a similar attempt in a case of recurring mammary cancer, in which no positive effect could be seen from the malaria inoculation. The question as to the efficiency of malaria in curing or preventing cancer is thus still open, but does not seem promising.

Ever since the discovery in 1896 of the hemostatic virtues of gelatine, this drug has been administered hypodermically on a large scale, both for the cure of aneurism and as a therapeutic measure in hemorrhages of all kinds. Its efficiency for both of these purposes can no longer be questioned. In 1902, as during previous years, the number of reported cases cured or benefited by gelatin injections has grown steadily. The procedure is as follows: 1 or 2 g. of pure gelatine is dissolved with the aid of gentle heat in 100 g. physiological salt solution. The solution is then put in a steam sterilizer for one hour; 50 g., more or less, as the case may demand, are injected hypodermically. Unfortunately, the exposure of the gelatine solution to steam at 100° C. for one hour does not always suffice for the extinction of all spore-bearing micro-organisms, in particular of the tetanus bacillus. During the past year a large number of cases of tetanus following the hypodermic use of gelatine have been reported, and a number of observers, in particular Levy and Bruns, at Strassburg, and Schmiedicke, in Berlin, have, by means of an ingenious cultural device first suggested by Sanfelice, been able to demonstrate the presence of tetanus bacilli or spores on practically all dried gelatine. The question, therefore, that cries for solution is: "How can gelatine be freed from tetanus spores without interfering with its therapeutic value?" Ordinarily, tetanus spores are killed by steam at 100° in eight minutes. Either, therefore, tetanus spores obtained from different sources have a different power of resistance to heat, or in those cases in which tetanus followed the injection of gelatine, the sterilization of the latter was carelessly done. If Zibell is right in maintaining that the hemostatic power of gelatine lies in its possession of a soluble and easily absorbable combination of calcium, then we

can sterilize the gelatine as long as we wish, even at temperatures higher than 100° C., without interfering with its hemostatic power. If, however, the latter depends upon its gelatinizing property, prolonged sterilization or sterilization at high temperatures is not permissible. This problem still awaits solution.

In those cases of malaria in which quinine for one reason or the other cannot be given, our only refuge has until recently been one of the inorganic preparations of arsenic. The uncertainty of its action, however, and the need of giving doses so large that toxic effects may well be feared, has interfered very greatly with the usefulness of this drug. The organic preparations of arsenic, called cacodylates, have given more satisfactory results, but they too are neither quite certain in their action nor entirely non-toxic. Dr. Armand Gautier, however, has recently described a new cacodylate, which he claims is free from the faults of the other members of this group. It is a disodium-methylarsenate, formed by the action of methyl iodide on sodium arsenate in the presence of an alkali. It occurs in colorless crystals, soluble in water, contains 45 per cent. of arsenic and is entirely non-toxic. It can be given indifferently, by mouth or hypodermically. Its dose is from one-half to one and one-half grains daily, though three grains may be given with impunity. The drug, put on the market under the name of *arrhenal*, has been tried by Billet in North Africa on nine cases of severe malaria. Hypodermic injections of one to two grains were absorbed without pain and produced no constitutional disturbance. All nine cases recovered promptly. If further observations confirm Gautier's claim, *arrhenal* should become a valuable addition to our armamentarium.

A new and valuable local anesthetic has been brought before the medical world this year. It is called *anesthesin* and is a para-amido-benzoic acid-ester, a white, tasteless powder, slightly soluble in cold water, readily so in alcohol, ether, fats and oils. Its action resembles that of *orthoform*, to which it is chemically related, but it lacks the irritating property of the latter and is far less toxic. Huge doses are necessary to produce even a temporary illness in rabbits and no untoward effects have been observed in man. The drug has been thoroughly tested by v. Noorden. He administered it internally in gastric hyperesthesia and ulcer; for cough and dysphagia due to pharyngeal or epiglottic affections he gave the drug in tablets or troches, and as a spray in laryngeal hyperesthesia. As a salve it rendered good service in pruritus, especially in pruritus vulvæ due to diabetes mellitus; in eczema it practically eliminated the itching, and seemed even to have a beneficial action upon the eczema itself. In suppositories it acted well in cases of painful piles, but was inferior to opium in tenesmus due to proctitis. Bougies of *anesthesin* introduced into the bladder acted well in urinary tenesmus. The dosage is as follows: Salves with lanolin, 10 per cent.; suppositories, one-third to one grain in cocoa butter. As a spray, v. Noorden prescribes either 10 per cent. *tragacanth* emulsion diluted with water or a 3 per cent. solution in equal parts of absolute alcohol and water. Internally one-half to one grain was given two or three times daily, fifteen minutes before meals. Dr. Earp of Indianapolis reports cases of hemorrhoids, acute gastritis, gastralgia and perineal eczema in which the drug gave unmixed satisfaction. Other observers have reported similar results. *Anesthesin* will thus probably entirely replace the less satisfactory *orthoform*.

Some months ago Adamkiewicz and Kugel reported a number of cases of inoperable carcinoma treated by the injection of the former's *caneroin* with such

extraordinarily favorable results as to excite universal attention. These were followed by articles by Nothnagel and others, in part devoted to a destructive analysis of Adamkiewicz's cases and in part to the report of other cases not benefited by this treatment. All of these articles have been reviewed among the abstracts in a previous number of this journal. Jacoby, too, reports two cases of cancer in which the administration of cancrin did not retard the progress of the disease. Prof. v. Leyden and F. Blumenthal, on the other hand, have recently reported their results with a very similar preparation. The tumors of carcinomatous dogs were extirpated, hashed and the juice injected at frequent intervals for many weeks into rabbits. The serum of the latter was then injected into a carcinomatous dog, in whom the diagnosis had been certified by means of the microscope. After a number of injections, in the course of several weeks the tumor became smaller and semi-fluid. A microscopic examination revealed numerous leucocytes among the scanty tumor cells, cells showing fatty degeneration and fat globules. Under continued treatment the tumor disappeared entirely. They also expressed the fluid from a freshly extirpated canine cancer and injected this into another carcinomatous dog, in whom two tumors, each the size of a plum, could be palpated in the upper and lower portions of the rectum. After two months of this treatment a portion of the tumors began to grow smaller and softer. After five months both had almost entirely disappeared. The small remnant was cut out and proved to be unmistakable cancer. This encouraging result led them to try a similar method on human beings. They squeezed out of human cancer masses, aseptically cut out of the living patient a juice, which was used for injections after its harmlessness had been ascertained by means of animal experiment. It was used, however, only on cases of inoperable cancer so far advanced that their condition was hopeless. As was to have been expected, no distinctly favorable result was obtained in most of the cases. In two of them, however, it was noticeable that while the tumor itself remained unaltered, no metastases occurred and the indurated lymph glands in the vicinity disappeared. In a third case, a very decrepit woman of forty-two years, no growth of her tumor took place during the ten months she remained under observation, although upon her admission her condition had been so desperate as to promise a rapid ending. It would thus seem that in spite of the scoffs with which Adamkiewicz's reports have been received, it is not impossible that his method may somewhere contain a kernel of truth.

The number of new synthetic drugs that are continually placed on the market is legion. Of these one of the most interesting is "Theocin," a dimethylxanthin, which is identical with theophyllin. The latter is an alkaloid discovered in 1888 by Kossel in tea leaves, where it occurs in minute quantities. It is chemically closely allied to theobromin and caffeine. The diuretic action of these two last substances has been known for some time. Theobromin, especially in combination with sodium salicylate (diuretin), or with sodium acetate (agurin—discussed in some detail in a recent number of this journal), has until recently been considered as our most powerful and most reliable diuretic. Nevertheless, theophyllin far surpasses both of these diuretics. Thus N. Ach found that while on the average diuretin causes 3.8 times as much urine to be excreted as before its administration, the activity of theophyllin should be represented by 6.3. This alkaloid has not hitherto been utilized in practice, however, because it occurs in such small quantities that its cost of production was excessive.

The Eberfeld Farbenfabriken have, however, recently produced this alkaloid synthetically (theocin) according to W. Traube's directions, thus producing an inexpensive drug, the diuretic efficiency of which is quite equal to that of the native theophyllin. The substance, by the way, is of particular scientific interest as being the first alkaloid produced by a purely synthetic process. Theocin is particularly effective in cardiac dropsy. Thus in one case, reported by Min-kowski, (aortic insufficiency, dilatation of the left ventricle, albuminuria, edema of both legs), the urine after a single dose of 0.4 g. theocin rose from 820 c. c. daily to 7600 c. c. during the next day. The edema disappeared completely over night. In most cases a urinary secretion of from 3000 to 5000 c. c. daily can be obtained. Its main drawback is that it is somewhat irritating to the gastric mucosa. This may be somewhat obviated by giving the drug in dilute solution (e. g., 0.3 to 0.5 g. in a cup of hot tea) after meals. Where the stomach is very irritable the drug cannot well be given.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

R. B. H. GRADWOHL, M. D.

The past year has been characterized by substantial advances in bacteriology and pathology. It takes years to witness great advances in this department of medicine. Innumerable workers the world over must put their contributions together, and the total will make a new era. The scientific investigators in this country are each year increasing in numbers, and consequently each year sees more and more scientific work coming from this side the Atlantic. Impetus has been given to original investigations in this land of late by the liberal scholarships founded by John D. Rockefeller. The men who have secured these scholarships have already brought out new and original ideas, notably the work of Duval in further demonstrating the specificity of the bacillus dysenteriae for tropical bacillary dysentery, and that of Vedder, who claims that this self-same organism plays a role in producing the ordinary summer complaint of children.

The work along the line of finding a specific micro-organic cause for cancer has been followed up the past year, as in the year preceding. Ribbert places himself on record against the parasitic theory of cancer, nor does he believe cancer is caused by infecting cells. He argues for a pathology beginning in the connective tissue of an epithelial area, separating epithelial cells from their proper relations and stimulating their vegetative activity. Von Leyden, writing in the *Wiener Med. Wochenschrift*, May 17, 1902, calls attention to certain numerous conditions in plants, in which an amebic parasite is certainly demonstrated as a cause. Arguing for the parasitic origin, he thinks that the life history of the carcinoma, the clinical picture, the anemia, the increase of indican and the diazo all demonstrate some living parasitic cause. The author refers to dogs in which carcinoma has been experimentally produced. He gives a minute morphological description of an intracellular parasite which he thinks is the cause of cancer. A series of four papers appeared in the *Journal of Medical Research*, constituting

the second annual report of the cancer committee of Harvard. These papers took up the question of the relationship of blastomycetes to cancer. The conclusions of these investigators—Greenough, Tyzzer, Richardson, Weis and Nichols—are that the peculiar bodies seen in the protoplasm of cancer cells are not parasites nor the cause of the lesions, but probably are, in part at least, atypical stages of the process of secretion by glandular epithelium.

Among other writings on the etiology of cancer might be mentioned, first, that of Loeffler, who claims that there is some relationship between malaria and cancer—*i. e.*, that malarious-infected localities seem to prevent cancer among inhabitants of such places (which has been disproved); and, secondly, that of James Braithwaite of London, who claims that an excess of salt in our diet is responsible for cancer. He claims that savages who eat no salt do not have cancer, and that the eaters of pork and salted meats are subject to it; that the Jews, eating very little salt, are not subject to it. All of which can be taken *cum grano salis*.

The relationship between bovine and human tuberculosis has received due attention at the hands of pathologists during the past year. J. G. Adami, in the *Philadelphia Medical Journal*, February 22, 1902, believes that human tuberculosis is communicable to cattle, and *vice versa*. He believes that children become infected with tuberculosis from infected milk only in case of udder tuberculosis, when the milk contains the bacilli in large quantities. C. H. Cattle, *British Medical Journal*, February 22, 1902, states about the same as Adami. Theobald Smith, on the contrary, believing in the duality of the bovine and human tubercle bacillus, states that we cannot believe that transmission of bovine tuberculosis to man may take place until we isolate tubercle bacilli from particular cases having the characteristics of the bovine variety.

A great deal has been done in investigating the life habits and habitations of the mosquitoes of North America here of late. Cassidy and Boyne, *American Medicine*, May, 1902, describe five genera of North American mosquitoes. They do not believe that the classification as given by Howard, the entomologist in Washington, is quite comprehensive enough for our present information concerning the mosquito. They have found anopheles to be a country mosquito, but they have found it in clear running water as well as in stagnant water. It was, however, usually found in quiet, moss-grown spots in the running streams. Freezing for one hour or more did not hurt the larvæ. Henry B. Orr examined the bodies of the common night mosquito and found four forms of parasite in the mosquito. He believes that this parasite is not the cause of any disease in man. H. P. Johnson describes a new sporozoan parasite found in 80 per cent. of anopheles punctipennis that he examined in Massachusetts. He refers to its resemblance to malaria, and suggests it as a source of error.

An observation which has created merriment for the lay journalist, owing to misstatements in the public press, is that made by C. W. Stiles of the Department of Agriculture on a new species of hook-worm. The newspapers have referred to Stiles' discovery of the "germ of laziness." He studied the parasites in the cases of uncinarias observed by Claytor, Smith of Galveston, Texas, and Ashford of Porto Rico. He found that these specimens differed from uncinaria duodenalis of Europe, in that there are no hook-like teeth. These are replaced by a pair of semilunar plates. The eggs are larger, measuring forty by seventy-two microns. Stiles states in his article that he believes the prevalence of the

worm disease among the southern inhabitants is made manifest by their apathetic ways and general lazy character. It was for this reason that the newspapers unfortunately seized hold of the article and called the observation a discovery of the germ of laziness.

J. M. Beattie made extensive experiments with peritoneal injections of guinea-pigs with *B. coli*, *B. typhosus*, *cholera spirillum*, bacillus of dysentery, *staphylococcus pyogenes aureus*, bacillus tuberculosis, and also with foreign particles, in order to study the cells of inflammatory exudations as to their function and destiny, and also as to the origin of the mononuclear cells. The colon bacillus was used in most of the experiments. By means of a sterile capillary pipette, the peritoneal fluid was withdrawn at different periods, following inoculations with various organisms. Forty-four guinea-pigs were used in the experiments.

After an injection various cells appeared in the exudate. In the early stages, six to forty-eight hours, the exudate is clear, abundant, and contains large numbers of polymorphonuclear leucocytes. In non-fatal cases these diminish gradually after forty-eight to fifty-six hours and disappear entirely after five or six days. Excepting in leprosy and tuberculosis, these polymorphonuclear leucocytes are the main phagocytes. This exception is probably due to the slow growth of these bacilli and consequently a later leucocytosis. It is certain that there is a substance produced by the cells which is injurious to the life and activity of the bacilli, but it is doubtful whether it is produced by these leucocytes or the mononuclear cells. The activity of bacteria was impaired before ingestion by the cells. The polymorphonuclear cells are largely destroyed in the peritoneal fluid, either as free cells or in the interior of other cells. The coarsely granular eosinophile cells play no important part, at any rate in relation to bacteria. The mononucleated phagocytes are found at all stages, being most abundant after thirty-six hours. They are derived from the endothelium of serous membranes, of blood vessels, of lymph vessels and sinuses, large mononuclear leucocytes, and from the lymphoid tissue surrounding the vessels. They are ameboid and show marked vaculation of their protoplasts, which is probably an evidence of their secretory action, and not merely a degenerative change. They are markedly phagocytic to other cells, as well as to bacteria. These cells are largely destroyed in the peritoneal sac. None of the internal organs, so far as Beattie has been able to ascertain, appear to act as destroyers of or storehouses for these cells, except possibly the lymph glands. Great numbers of these cells are always found in the omentum. These mononuclear cells are the most important cells of inflammatory exudates. In cases of peritonitis the omentum must be looked upon as an important agent in protecting the individual from more general infection. The presence of a large number of these cells, if active, in inflammatory exudates is a favorable sign. The plasma cells, which Mallory suggests may produce the antitoxins of typhoid fever, are, he believes, nothing but these mononuclear cells. They can and do act as phagocytes, and are not confined to any special form of inflammation, but are most numerous in cases of bacterial or toxic infection.

A paper which promises to settle some of the mooted points in regard to the value of the colon bacillus as an index of sewage pollution is that written by Winslow and Hunnewell, published in the *Journal of Medical Research* for December, 1902. They made a study of the distribution of the colon bacillus of

Escherich and of the sewage streptococci of Houston in polluted and unpolluted waters. The bacteriologic world has been vacillating here of late between the acceptance and the rejection of the colon bacillus as an index of sewage pollution.

The Kruse school of bacteriology has long ago declared that the presence of the colon bacillus in water has absolutely no significance from a sanitary standpoint. In 1894 Kruse said "that the colon bacillus is in no way characteristic of the feces of man or of animals. Such bacteria occur everywhere, in air, in earth, and in the water, from the most different sources." Winslow and Hunnell made a study of one hundred and fifty-seven samples of water from presumably unpolluted sources, and also of fifty samples of water from obviously polluted sources. They state, regarding the method of water analysis, that the use of large samples in applying the colon test to the sanitary analysis of water is not advantageous. In comparing their results in testing one cubic centimeter and one hundred cubic centimeters, it was seen that the proportion of lactose fermenting organisms and of colon bacilli in the unpolluted waters was more than doubled in the latter; thus waters of good quality are more likely to be condemned by the use of large samples. On the other hand, in the polluted waters, a considerable proportion of the colon bacilli originally present were lost during the incubation of the large samples, so that waters of bad quality appeared to better advantage by the use of one hundred cubic centimeters with preliminary incubation in phenol broth. The tests showed that all of the fifty samples of polluted water showed gas production against only one-quarter of the samples of unpolluted water (forty out of one hundred and fifty-seven). Furthermore, of the litmus-lactose-plates made from dextrose tubes, the entire fifty showed red colonies (colon bacilli) in the first class of waters, while only about eight per cent of the plates were reddened in the second class (thirteen out of one hundred and fifty-seven).

It seems that bacteria capable of growing at incubator temperature and fermenting dextrose and lactose are only infrequently present in unpolluted waters. The experiments on the whole show that the *B. coli*, with the methods employed in these tests, is very rarely found in one hundred cubic centimeter samples of unpolluted waters. In one hundred and fifty-seven samples typical colon bacilli only appeared five times, and "para-colon" bacilli five times more. This confirms the observations of Smith and the English bacteriologists as to the parallelism between the number of colon bacilli present in a water and the extent of its contamination. It can be stated that when the colon bacillus, as defined by the tests given, is found in such abundance as to be isolated in a large proportion of cases from one cubic centimeter samples of water, it is reasonable proof of the presence of serious pollution.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Progress in medicine is rarely marked by a distinct and conspicuous step forward, but more commonly is indicated by a gradual advance, and therefore I will not give merely a review of a number of picked publications, which in my opinion stand for progress, but will endeavor to briefly outline the present status of certain still unsettled, or but recently offered, problems and theories which have undergone noteworthy change as an outcome of publications of the year 1902.

Considerable work has been done as regards the histology of the impregnated ovum. Peters' theory of the imbedding of the ovum has been confirmed by the investigations of several authors. The old theory that the fertilized ovum, having entered the uterine cavity through the tube, simply attaches itself to the endometrium, must now be considered a teaching of the past. The ovum settles in the uterus by burying itself in the deeper layers of the mucosa. The decidua reflexa is in all probability not formed by the surrounding endometrium, which was supposed to have risen like a wall around the ovum, finally closing over it, but is the actual portion of the endometrium through which the ovum has penetrated. The conditions in abnormal nidation of the ovum in the tubes have been found to be identical. New light has been thrown on the process of the growth of the placenta, a point we know very little about. Based upon painstaking histological researches, Hitschmann and Lindenthal have developed a theory of the growth of the placenta which is satisfactory and suggests a plausible explanation for abnormal situation of the placenta, as in placenta previa lateralis or centralis. Another observation of still indeterminable importance has been made in the studies of the histology of the placenta.

It was known that parts of, or complete, chorionic villi could become detached from the placenta and carried away during labor. During pregnancy a similar process was known to exist in some cases of hydatid mole and ectopic pregnancy. Especially the latter observation, made by Veit, induced Poten to study this question as regards normal pregnancy. The results of his investigations are striking. He feels justified in the conclusion that detachment and deportation of chorionic villi into the maternal system is a typical occurrence in normal pregnancy. This observation, first of all, overthrew the old and deeply rooted belief in a secure barrier between fetal and maternal blood. It opens an avenue for new hypothesis regarding the transmission of diseases of the mother to the child and *vice versa*. Based upon the latest findings in this most fascinating and complicated question of hemolysis, by some authorities the possibility was suggested that the long-sought-for toxin, which, according to almost all the accepted theories, is the cause of eclampsia, may be furnished by the dissolution of syncytial masses or other embryonic tissue deported into the maternal blood. Very recent publications (Weichardt and Ascoli) seem to lend important support to this newest eclampsia theory,

The blood of both the pregnant woman and the newborn child has been the object of careful examinations. Of considerable importance are the results of the work of Halban and Landsteiner, who found that the blood of the fetus in

comparison with that of the adult represents not only morphologically, but also chemically, a state of incomplete development. Its hemolytic, agglutinating, bactericide, antifermentative and antitoxic qualities were found to be considerably less than in normal human blood.

In a book, which of its kind is without parallel in medical literature, Ballantyne, the eminent English scientist, has compiled all that is known about the normal and abnormal development of the ovum, and the physiology and pathology of the fetus. His classical work culminates in the idea of recognizing and, if possible, preventing diseases of the child in utero; a high aim, well in accord with the dominating trend of preventive hygiene of modern medicine. Another valuable feature of this book is the fact that it gives numberless hints as to where more light is most needed in this dark field of antenatal pathology and physiology.

How distant we still remain from a satisfactory knowledge of this subject may easily be inferred from the fact that we do not even know the duration of pregnancy. The new civil law of Germany defines the date of possible impregnation to lie between the one hundred and eighty-first and the three hundred and second day before confinement. Recent investigations made by von Winckel, Taussig and Zweifel have proven that in a certain percentage of cases pregnancy undoubtedly may last longer than three hundred and two days. In consideration of the fact that in such instances the child has been found unusually developed, Zweifel suggests an amendment of this law to the effect that where the child is heavier than four thousand grammes and longer than fifty-two centimetres the possibility of a pregnancy of more than three hundred and two days must be conceded.

Medullary anesthesia, which but a short time ago was hailed as a blissful aid in the sufferings of the parturient woman, has practically ended its career in this field. I will mention, however, a publication of Komann, who reports the very satisfactory effect of spinal anesthesia in a case of eclampsia. One cubic centimeter of a sterilized five per cent. solution of tropacocaine was injected in the subarachnoidal space of a parturient who had had seventeen eclamptic attacks. No other attack followed. Patient promptly regained consciousness, and after another injection of the tropacocaine gave spontaneous birth to a living child.

The limits of propriety of cesarean section have been widened, especially regarding the relative indication in moderate contractions of the pelvis. The question whether craniotomy of the living child is still permissible has been seriously considered by several writers. The ever-improving results of cesarean section have led to the suggestion of using this operation in the treatment of the two most dreaded complications of labor—eclampsia and placenta prævia. While it seems, especially from the reports of last year's meeting of the British Medical Association in Manchester, that this heroic interference is gaining ground as regards eclampsia, it certainly has encountered an almost complete defeat in placenta prævia. Scarcely a year since, with morbid enthusiasm, cesarean section was proclaimed as the "only proper treatment of placenta prævia from the standpoint of the surgeon;" to-day some authorities positively deny the propriety of such a treatment; some concede that it has a limited field, but certainly no one dares display the enthusiasm of a short time ago.

An antioperative tendency is noticeable in the treatment of spontaneous rupture of the uterus during labor. Statistics and discussions have conclusively

demonstrated the superiority of a careful packing of the uterus with gauze over extirpation of the organ. Peham has, however, called attention to a noteworthy disadvantage of this conservative treatment. He demonstrated the imminent danger of a new rupture in the old scar during a subsequent pregnancy, and therefore concluded that a pregnancy following the conservative treatment of a ruptured uterus should be interrupted artificially. His view has since been sustained by other authorities.

The often-discussed question whether an antiseptic douche given during labor is an advisable or even justifiable procedure, has again been dealt with by Hofmeier. Contrary to the views of Baumm, and especially of Kroenig, that douche means interference with the normal process of auto-disinfection taking place in the vagina, Hofmeier proved by the results of his clinic the advantage of an ante-partum douche, and referred to the numerous unimpeachable cases recorded in literature of severe puerperal infections in women who never were even examined.

The presence of virulent pathogenic germs in the vagina of pregnant and parturient women has been conclusively demonstrated by several authorities (Doederlein, Duebendorfer, Stolz). As one of the many possibilities of an infection of the vaginal canal, Stroganoff, of St. Petersburg, has found the bath given immediately before labor. By the use of chemicals added to the water he apparently demonstrated that the water penetrates deeply within the vagina. Winter contradicted this assertion, explaining Stroganoff's result by a deficiency in the technic of his experiments. Sticher has again taken up these experiments, using (instead of chemicals) cultures of the harmless bacillus prodigiosus. He re-established the results of Stroganoff's investigations. Very recently Hertzka repeated the experiments of Sticher, applying a modified technic, and concluded that his investigations contradict Sticher's results, exactly as Winter's did Stroganoff's. He does not believe in a necessary penetration of water within the vagina during a bath; he agrees, however, with the view of Stroganoff, that indiscriminate use of one bath-tub, without disinfection, for a great number of parturients, as usually done in maternities, may often be the source for infection. He advises, furthermore, to give to a pregnant or parturient woman a bath only in running water or to cleanse her by sponging, for the maternity bath is often but "a dilution of filth" (due to the physical characteristics of the class of women encountered), and is thus hardly compatible with our present ideas of surgical cleanliness.

The treatment of puerperal infection by extirpation of the uterus was one of the topics set for discussion before the International Gynecological Congress which met in Rome, September, 1902. The almost general consensus of opinion was that this operation should not be performed. While it could not be denied, from a theoretical standpoint, that the extirpation of the puerperal uterus might be justified and advantageously performed, so long as the infection is confined to the uterus proper, it had to be conceded, from a practical standpoint, that there is no symptom indicative of the fact that the infection has transgressed the boundaries of this organ. Too early operation would be a criminal, too late operation a hopeless and useless procedure, as even Tuffier, of Paris, the first advocate of this mode of treatment, was compelled to acknowledge. By many authorities, in this discussion, the necessity was emphasized of carefully searching for abscesses and opening them if present. The device of Trendelenburg, to ligate

the vena hypogastrica and spermatica in order to check a further advance of thrombosis in cases of puerperal infection, seems worthy of consideration. A view as regards its efficacy cannot yet be formed, since it has been done in only a very few instances.

Another theme of the International Gynecological Congress was the artificial interruption of pregnancy on account of internal diseases of the mother. Two elaborate essays, prepared by Hofmeier and Schauta, consider all the possibilities. The scope of this paper does not permit of detailed report of all the indications and contraindications of interference with a pregnancy. So much may be said, however, that in comparison with prevailing conditions in our country, a striking and enviable conservatism dominates this procedure in Europe. The justification for such an assertion can be discerned in the fact that Pinard, of Paris, found in a total of 22,708 pregnancies an indication for artificial interruption in but twenty cases, and Labusquiere in 35,062 cases of the clinic in Vienna but thirty-six times. The figures exclude contraction of the pelvis as an indication, but include, however, eclampsia. In how large a percentage of the cases eclampsia formed the indication for artificial interference is shown in the statistics of Draghiesce, of Bucarest: Out of 18,132 pregnancies, artificial abortion or premature birth was produced seventeen times; of these thirteen were eclamptic, three exhibited a heart lesion, and one was an epileptic.

Several articles during the past year have referred to the great danger wrought by a complication of pregnancy with appendicitis. They emphasized the necessity of early operation, and demonstrated that the otherwise highly unfavorable prognosis is decidedly improved thereby.

A number of statistics have been published on the results of ovariectomy during pregnancy. They proved convincingly that pregnancy should not be considered any longer a contraindication for operations in the abdominal cavity. Seeligman has even removed through the vagina, by means of morcellation, a submucous myoma attached with broad base to the posterior wall of a pregnant uterus. In due time a healthy child was born by the patient.

As has been the case for several years, more publications are devoted to gynecologic than to obstetric topics.

In the center of gynecologic interest remains the carcinoma question. Abdominal radical operations, and among them especially the operation of Wertheim, seem at present to be more favored than vaginal methods, of which, however, Schuchardt's operation still obtains. What role is played by the lymph glands—whether they become infected early or late, whether all of them or only the enlarged ones should be removed, whether the extirpation of all of them is possible by means of certain operations which are called radical operations, are the main questions which were discussed last year. The opinions are divergent, and sometimes contradict each other diametrically. Unanimous is, however, the belief that a thorough renewal of both parametria in every case considerably improves the prognosis. Whether such can be done to a desirable degree by the vaginal operation of Schuchardt, or only by the abdominal route, is a question which cannot yet be settled, for the reason that we have not a sufficiently voluminous number of cases on record in which the generally conceded period of five years of freedom from recurrence has proved definite cure. At present it would seem as if the remote results of these new radical operations will be better than those which have been obtained with the older methods. Certainly they will be

really satisfactory only in such cases in which the operation has been performed early; and, therefore, Winter's dictum still holds good, that only early diagnosis and early operation will lead to more favorable results in the operative treatment of carcinoma of the uterus.

The same dictum prevails for another exceedingly malignant growth of the uterus, namely: chorioepithelioma, better known as deciduoma malignum. How many men's thoughts have been devoted to furthering our knowledge on this peculiar neoplasm may be deduced from the fact that a review on the recent literature on this subject, compiled last year by Muenzer, surveys almost two hundred publications. It must be accepted as proved that chorioepithelioma derives its existence from the ectodermal layer of the chorionic villi, or, more exactly, from the syncytial cover of same. It is distinguished from all other known neoplasms as being a growth originating from fetal tissue, but destroying the maternal organism. The clinical features of this most dangerous tumor have been considered by Ladinsky. He regards the clinical symptoms of the disease sufficiently characteristic to permit of a diagnosis without the aid of the microscope. A careful examination of scrapings, however, remains as the only reliable source for a positive diagnosis.

New cases of primary chorioepithelioma of the vagina have been reported by Peters, Schmit, Peham and Huebl. In these cases—there are now about ten on record—this malignant growth has developed in chorionic villi deported to the vagina from a healthy uterus, in the manner described in the beginning of this paper.

Although benign from a histological standpoint, in the opinion of A. Martin, myoma should be considered a malignant disease from the clinical point of view. Severe and dangerous alterations of the heart are often found as complications of even small myomata, as is clearly shown in an interesting essay of Kessler. The papers of Cullingworth, Ch. P. Noble, Scharlieb and others have demonstrated that a considerable percentage of all myomata undergo degenerative processes, and often lead to fatal complications. The belief in the spontaneous disappearance of a great number of myomas in the climacteric age has lost ground. In consideration of these new observations in the clinical aspects of myoma, Martin's conclusion is well justified, that operation is indicated in every case in which medical treatment fails, when the patient's general health is impaired, or her ability to attend to her work considerably diminished.

Adenomyoma, the peculiar variety of myoma which contains glands, has been the subject of careful investigation. In almost all of Cullen's cases a direct connection between the glands of the tumor and those of the endometrium could be revealed.

As the most noteworthy advance in our knowledge of the histology of tubal pregnancy of late, must be considered the observation of Fueth that the chorionic villi penetrate deeply into the muscular layers of the tubal wall, and in this way prepare rupture. Kroenig and Lindenthal confirm this view, the latter showing that even after the ovum has perished, either by hemorrhage or abortion, the Langhans cells may retain their vitality, may continue their destructive action, and thus, after the lapse of some time, finally lead to dangerous hemorrhage. The logical conclusion to be drawn from these and similar observations of other authorities would be that the only rational treatment of ectopic pregnancy is the surgical one. A paper of Braun-Fernwald gives a complete and

clear survey of the modern views on the etiology, pathology, diagnosis and therapy of ectopic pregnancy.

The fact that tuberculosis of the female genital organs had been made one of the topics for discussion before the International Gynecological Congress in Rome has prompted the publication of numerous articles on this subject (Martin, Amann, Tuffier, Treub, Hartz and others). These papers are critical reviews or compilations of known facts, and do not bring forth any absolutely new ideas or observations of importance. Tubercular infection of the uterus and its appendages is not a very rare occurrence. The diagnosis is often difficult or utterly impossible. The majority of authors seem to favor radical operation, either through vagina or abdomen; some, however, reject such procedure, reasoning that radical cure by operation is out of question, since the genital infection, as a rule, is but secondary, the primary seat of infection being some other organ which cannot be extirpated.

As regards the non-tubercular diseases of the uterine appendages, conservatism still remains the battle-cry. The vaginal incision, one of the oldest modes of treatment for this affection, is being resurrected in but slightly changed form. Instead of the puncture and small incision, an opening is made "wide and free" (Noble). German authorities recommend, especially for non-suppurative processes, the conservative non-operative procedures, such as hot-water douche, massage, massage with the air-colpeurynter, pressure, weight, etc.

In this connection mention may be made of a very valuable contribution of Hunner and Harris of Johns Hopkins on the diagnosis and treatment of gonorrheal peritonitis. Expectant treatment is strongly advocated, if the gonorrheal character of the infection is ascertained.

When a few years ago Theilhaber undertook to attack the deeply rooted belief that every retroverted or reflexed uterus is a pathologic condition which requires immediate treatment, he encountered as his strong opponents men like Schultze and von Winckel. Since this time the general opinion regarding the pathologic dignity of retroversion and flexion has undergone a considerable change. Theilhaber's view that not the malposition of the uterus itself, but only other pathologic alterations, usually accompanying retroflexion, are responsible for the so-called "*typical symptoms of retroflexion*," has found noteworthy support in the literature of the past year. Retroversion or flexion of the uterus must be considered an anatomical abnormality, but cannot be looked upon in every case as a disease demanding repair, either by operation or by the use of a pessary.

The relative value of surgical and non-surgical interference in this form of malposition of the uterus was exhaustively discussed in a meeting of the Obstetrical and Gynecological Society of Berlin. Since the pessary does not enjoy any noteworthy esteem in this country, it may be stated that in said discussion the usefulness of a properly modeled pessary was emphasized by several speakers. In American literature we have found but few attempts to defend this much-abused agent. (Davenport, Montgomery.)

Which of the many operations in current use for retroflexion yields the best results is a question still warmly discussed. Good results are reported by Goldspohn from his bilateral celiotomy through the inguinal rings, by Vineberg from his vaginal fixation, and by Bucura from shortening the round ligaments through the vagina (after Wertheim). New operations, or modifications of older ones, have been proposed by Baldy, Boyee, Ferguson, Gebhard and others.

There have been published new operations for the repair of cystocele by Hirst, Reynolds, Pestalozza, Chauvenet and Chiaventone. G. H. Noble has invented a very ingenious method of restoring a completely torn perineum. By freeing the anterior wall of the rectum and pulling the loosened portion downward he easily transforms a complete laceration into an incomplete one.

A. Martin's total extirpation of both uterus and vagina in cases of complete prolapse has been reinvented by Edebohls. Among all the operations for prolapse, however, Wertheim's operation, especially in the modification of Schauta, holds at present the first position. In this operation the uterus is pulled down into the vagina through an anterior vaginal celiotomy incision and fixed in this position. It is beyond doubt that none of the other operations present even approximately as large a percentage of permanent cures, especially in the severest forms of prolapse.

The number of new operations for the repair of vesico-vaginal fistulas is considerable. Such have been devised by Laphorn Smith, Kelly, McCann, Balacescu, Gruzdeff and Wolkowitz. Subbotin's method of treating extrophy of the bladder by constructing a new bladder, with urethra and sphincter, out of the rectum, has been successfully applied by Gruzdeff in a case of extensive vesico-vaginal fistula, with destruction of the urethra. The result was perfect. Worthy of special mention is the method of Wolkowitz, because it brings forth a new principle of repair. This operator frees the cervix, all-round, from its connections, and obtains in this way a considerable mobility of the uterus. An occlusion of the fistula is now procured by pulling the uterus deeply down into the vagina and fixing it in this position.

The vaginal operations have always encountered some strong adversaries. One of the arguments often used by them was that the vaginal route does not permit of inspection of the pelvic organs outside of the field of operation. This objection is overcome by an ingenious invention of the well-known Russian gynecologist, von Ott. The use of a rather simple speculum invented by him, offers the possibility of obtaining, through a vaginal opening, a good view of almost all the pelvic contents.

The superiority of the vaginal route for certain operations is demonstrated by the reports of Murphy, Krusen, Kozlowski and Edebohls of the successful removal of the rectum *per vaginam*. The last mentioned writer argues that the resection of the sacrum, after Kraske, is an unnecessarily severe operation in the treatment of rectal cancer of the female, since the lower portion of the rectum may easily be removed through the vagina, and higher portions should be removed *per abdomen*. A. Martin and Thorn praise the advantages of the vaginal route in the operative treatment of myoma of the uterus.

An indispensable constituent principle for advance in every specialty is a study of the relation of this branch to general medicine. I shall close my paper with a consideration of those publications which deal with connections existing between abnormal conditions of the female genital organs and those of other organs.

Tuszkai and Sommer have studied pathologic conditions of the genital organs as an etiological factor in gastric disturbances. Goelet has made an attempt to prove that almost all gynecological troubles may be caused by a prolapsed kidney. Schaeffer has found certain changes in the circulatory system to be due to alterations in the genital sphere. Fliess' theory of a relation between

a certain form of dysmenorrhea and pathologic conditions in the nose has gained important support in the literature of the past year, and the existence of a nasal dysmenorrhea must be accepted as an established fact.

The larger part of these publications is devoted to the connection between psychoses and neuroses and pelvic affections, a subject which for many years has kept the attention of both the neurologist and gynecologist. We owe to the various painstaking reports of Hobbs, superintendent of the insane asylum of London, Ontario, the most noteworthy furtherance of our knowledge regards the role played by pelvic lesions in the etiology of mental disturbances. His conclusions are most favorably commented on by so eminent a gynecologist as B. S. Schultze, who emphatically endorses Hobbs' conclusions, that every insane asylum should have a well-trained gynecologist among its assistants, that in every insane woman the functions of her genital organs should be carefully observed, and every gynecological abnormality found should be attended to according to the principles of modern gynecology.

In a very interesting book Kroenig deals with the origin of nervous diseases consecutive to abnormalities of the female genital organs, with secondary changes in the sexual sphere produced by primary diseases of the nervous system and with the treatment of these conditions. His views are to a considerable extent contradictory to the generally prevailing teachings. In his opinion genital symptoms are often the result of disturbances of the nervous system, while pelvic diseases but rarely produce alterations of the nervous system and never can lead to hysteria.

The amount of obstetrical and gynecological literature produced in the past year is vast. The mere task of overlooking the aggregate of this immense work is yearly growing more difficult, far greater an endeavor to write judiciously, and at the same time briefly and clearly on the "progress." The limited scope of this paper prevents detail as to operations and permits but a general survey of the subject. A detailed account of a number of the more important papers can, with the aid of the index presented in the December number of the *INTERSTATE*, easily be found in the abstracts published during the last year in the department of Gynecology and Obstetrics of this journal.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

A complete summary of the year's progress in pediatrics is hardly possible within the limits of such a review as this. Interest in this branch of medicine, always great, has been steadily increasing of late. Many journals are devoted exclusively to this study; in many others, particularly in the journals of the specialties, much work relating to pediatrics is published. This review aims merely to summarize briefly the year's progress in medical pediatrics, embracing only those aspects not touched upon otherwise in this series of reviews. The bibliography is naturally not complete, illustrative references merely being given.

DEVELOPMENT AND GROWTH.—There is no subject in pediatrics about which more is written, and concerning which there is a greater diversity of opinion, than about *infant feeding*. The paramount importance of maintaining breast feeding whenever possible is everywhere insisted upon. Statistics show that nearly 95 per cent. of cases of gastro-intestinal disturbances occur in artificially fed infants. Marfan¹ contributes a very interesting article showing that the ability of mothers to nurse their children is not diminishing, as is sometimes held. Budin² is of the same opinion. Southworth³ insists upon the importance of maintaining breast feeding, even though the amount of nourishment be only sufficient to partially nourish the child. Flachs⁴ believes there should be a maternity in connection with every children's hospital, so that as many infants as possible may be nursed.

It has been shown, too,⁵ that mother's milk contains many bactericidal (immunizing) substances (of the alexine group); which explains the comparative immunity of breast-fed children to various infections.

ARTIFICIAL FEEDING.—In attempting any summary on this important point it is necessary to bear in mind that the profession is still at sea with reference to the exact chemistry of milk. The American school, under the leadership of Rotch, is busily working on percentage modification. Rotch summarized his present views in his address before the British Medical Association this summer.⁶ But it is recognized that percentage feeding is not applicable to the majority of cases, and simplification of method is called for. Wentworth⁷ shows that absolutely accurate percentage is not necessary, and that home modification answers better. Indeed, there is still question as to the accuracy of milk analysis itself. Meigs⁸ believes that human milk is rather fixed in its constituency, so that in artificial feeding the amount of food should be increased rather than have percentages of the various elements changed.

Coit⁹ gives elaborate formulæ for progressive modification with "decimal" cream and sugar solutions.

Many writers insist upon the value of simpler methods of home modification.^{10 11}

The German school proceeds upon another principle altogether.

The amount of nourishment taken by breast-fed children is estimated by weighing before and after feeding. The caloric equivalent of this is calculated. With this as a basis, sufficient quantities of diluted cow's milk are taken to give approximately similar results.^{12 13 14 15 16} The exact percentages of fats, proteids and sugar *per se* in the milk are disregarded.

On the other hand, the French school uses sterilized milk, usually undiluted. Commercially sterilized milk is extensively used,¹⁷ or home sterilization is recommended.¹⁸ The French writers do not seem to find the sterilized milk indigestible, even though undiluted, nor have they found scurvy or rickets develop after its use. In America, at least, it is generally held that boiling of milk does effect its nutritive qualities, causing coagulation of the lactalbumins, affecting the organic combination of the phosphorus, destroying the lecithin, rendering the fats less digestible.¹⁹ It is held that Pasteurization (heating milk to 140-160° F.) does not produce these changes, and does kill most of the bacteria present, or inhibit their growth.²⁰ Ransome²¹ does not believe that boiling milk produces all the changes noted above. Neither does he think that scurvy follows its use. Attention is everywhere directed to the fact that the procuring of a

clean milk is of more importance than any kind or amount of modification. The milk commissions of Newark, Philadelphia and New York have proved that clean milk can be produced, and an increasing measure of success has attended their later efforts^{22 23}

Rothschild notes the value of the work of the Paris Municipal Commission in this same direction.²⁴

It has been shown that clean raw milk gives excellent results, even in such conditions as infantile atrophy.²⁵

On the other hand, Murphy²⁶ shows that the indigestibility of milk, under any modification, increases just as the acidity and the fermentation of the milk increases. It is interesting in this connection to note that Tunnecliffe and Rosenheim could not find that formaldehyde (in the strength usually used to preserve milk, 1-5000) exercised any ill effects on the general health and well-being of children.

In an interesting series of experiments Cozzolino²⁷ showed that the colon bacillus grows much more rapidly in cow's, goat's and ass's milk, than it does in human milk.

Various special foods are recommended. Langstein²⁸ has seen excellent results from the use of undiluted, peptonized milk in cases of indigestion and as a food for healthy infants. Fruecht²⁹ recommends Soxhlet's nutritive sugar, a mixture of maltose and dextrine. In Germany buttermilk, to which wheat flour and cane sugar are added, is being extensively used, particularly in cases of acute and chronic enteritis.^{30 31 32 33}

Interesting experiments have been made in Italy concerning the production of "medicated" milk. Flamini³⁴ found that after intramuscular injections of iodine (in solution) into lactating animals, iodine, in albuminoid combination, was eliminated in the milk. Giordani³⁵ obtained similar results with iron. It is possible that this may find therapeutic application. Southworth³⁶ contributes a valuable article concerning the feeding of children in the second year of life, insisting that cow's milk and cereals with fruit should form the basis of the diet. Very little meat should be given. In the heated term the diet should be light, and the author believes it necessary often even to dilute milk. Winters³⁷ in discussing the food factor in childhood points out that the rich meat diet usually allowed produces a distaste for cereals, vegetables and milk, and thus sets up a pernicious habit. He thinks the use of meat ought to be restricted up to the fifth or sixth year.

DISEASES OF THE NEWLY BORN.—*MELÆNA NEONATORUM*.—Holt³⁸ reports good results in a case occurring in a twenty-four-hour-old baby from the use of one-grain doses of the saccharated extract of suprarenal gland. Good results have also attended the subcutaneous injection of 2 per cent solutions of gelatin (sterilized).^{39 40}

EPISTAXIS IN THE NEWLY BORN.—D'Astros⁴¹ says that this is always a sign of grave infection, due either to hereditary syphilis or to septic infection. The prognosis is always serious, and therapy should be directed to the underlying cause.

SPECIFIC INFECTIOUS DISEASES.—Cutler⁴² has collected and abstracted the prevailing opinions on the periods of incubation, observation and isolation of the various acute infections.

DIPHThERIA.—Siegert⁴³ has collected the cases of diphtheria occurring in

five Vienna hospitals from 1886 to 1900. They number 17,626. Various interesting figures are given; suffice it to say here, that the general mortality, including all classes of cases, fell from 44 per cent in pre-antitoxin days to 16.5 per cent at the present time. Mueller⁴⁴ as the result of examination of statistics of German hospitals estimates that the mortality has fallen two-thirds since the introduction of antitoxin.

Several studies concerning the heart in diphtheria have appeared. Marfan⁴⁵ shows that in the fatal cases, especially if death do not supervene within the first few days, there is always marked muscular degeneration of the heart. In many of these cases cardiac thrombosis (not preagonal) were found. Bacteriological examination in these cases nearly always gave evidence of mixed infection, so that the comparative failure of antitoxin in these cases is explained. Bolton⁴⁶ agrees as to the acute (and extensive) degeneration of the neuro-muscular mechanism of the heart in these cases, though he does not find thrombosis to be so common. Barbier⁴⁷ found cardiac thrombosis twenty-three times in forty-five autopsies. In many of these cases the thrombosis had occurred late, was an accident of convalescence. In fifteen out of nineteen bacteriological examinations in these cases there was a mixed infection.

A good deal of literature concerning intubation and tracheotomy has been written of late. Siegert⁴⁸ has collected 22,615 operative cases since the introduction of antitoxin. The mortality was 34.2 per cent as compared with 60.3 in pre-antitoxin days. Various articles give details as to choice of method and operative technique.^{49 50 51 52 53 54} Cook⁵⁵ notes, in the symptomatology, that the knee jerk was absent in ninety-nine of one hundred cases at first. Susswein⁵⁶ made a series of experiments to explain the comparative rarity of diphtheria of the gastro-intestinal tract, seeing that enormous numbers of bacilli must be swallowed. He found that cultures of Klebs-Loeffler bacilli are quickly killed by even minute percentages of acids usually present in the stomach. Though the HCL content of the gastric juice is doubtless reduced in diphtheria, the combined acidity is still enough to kill the germs.

Stephenson⁵⁷ reports forty-three cases of diphtheria of the conjunctiva in children, treated with antitoxin, with one death. Holt⁵⁸ reports a case with recovery. With reference to therapy, the prevailing opinion is that we should not wait for bacteriological diagnosis before using antitoxin. As a rule, rather large doses (2000 units at one year of age) are recommended as the initial dose, and a repetition is suggested in twenty-four hours if improvement be not marked.^{59 60} Prophylactic injections are recommended for persons who have been exposed to the contagion, and for routine use in institutions.⁶¹ The period of immunity is, however, short, probably not exceeding three weeks. Geffrier and Rozet⁶² do not believe in large doses of antitoxin, because they do not believe that bad effects *never* result from its use. They have collected thirteen cases of anuria following antitoxin. They do not believe in prophylactic injections.

Kassowitz⁶³ still remains a vigorous opponent of antitoxin. v. Rittershain⁶⁴ describes the serum eruptions seen by him during the past four years. One thousand two hundred and twenty-four children were injected. Seventy-nine (6.4 per cent.) showed eruptions. In 75 per cent. of the cases the eruption was general. The rash usually (not always) appeared within ten days. The eruptions were urticarial, morbilliform, erythematous or rarely polymorphous. At times the

rash simulated that of scarlet fever, so that the differential diagnosis became difficult.

SCARLET FEVER.—Bowie⁶⁵ has studied the blood in one hundred and sixty-seven cases. Leucocytosis is the rule, beginning early. The eosinophiles increase rapidly. So long as eosinophilia is present, we cannot be certain that complications will not arise.

Baginsky⁶⁶ contributes a careful study of scarlatinal nephritis. Of nine hundred and nineteen cases of scarlet seen in five years, eighty-eight had nephritis. There is no relation between the severity of the disease and the onset of nephritis. Time of onset of the nephritis is of no prognostic value, but it is noted that nephritis rarely sets in after the forty-second day. Of the eighty-eight cases, eleven died, thirty-eight developed a chronic nephritis. Among the rarer complications is scarlatinal arthritis, of which Szontagh⁶⁷ reports fifteen cases. In thirteen of these nephritis existed, but no uremia developed. Crandall⁶⁸ also reports cases of this sort. He, too, mentions that in these cases the nephritis is septic and does not lead to uremia.

Baginsky,⁶⁹ in a study of the bacteriology of scarlet, finds streptococci almost constantly present, *intra vitam* in the throat, and in various organs at autopsy. Schabad⁷⁰ investigated the question of diphtheria bacilli in scarlet. They may be found at any time in the course of the disease, may be without significance, may act merely as saprophytes, or may be virulent. With reference to treatment, Gross⁷¹ (*inter alios*) advocates careful watching of throat and administration of antitoxin as soon as a membrane appears. In the treatment of the nephritis, Tobeitz⁷² has had excellent results from the use of turpentine internally, while for the uremia Springer⁷³ recommends venesection.

At the meeting of the German Pediatric Society at Carlsbad this summer, Moser⁷⁴ and Baginsky⁷⁵ read papers concerning the treatment of scarlet with specially prepared antistreptococcic serum. Moser claimed excellent results, Baginsky was not so sanguine.

MEASLES.—Reckzeh⁷⁶ has studied the blood in measles and scarlet. Scarlet shows leucocytosis, measles none.

Eosinophiles increased at first in scarlet, absent until toward end of second week in measles. It is possible that the blood count may therefore have diagnostic value. Armand-Delille⁷⁷ examined the throats of seventy-five measles patients and found diphtheria or pseudo-diphtheria bacilli in thirty-two. In cases where there is any question, clinically, antitoxin should be used. Leiner⁷⁸ reports four cases of "pemphigus contagiosus" complicating measles. There was a bullous (later pustular) eruption which was autoinoculable and contagious. Cultures showed staphyl. pyog. aur. Bruckner⁷⁹ discusses one of the rarer complications of measles, paralysis, concerning the pathogenesis of which no definite conclusions have been reached.

CHICKEN POX.—Dauchez⁸⁰ while admitting that this disease usually runs a very mild course, has nevertheless found albuminuria in ninety-three out of eight hundred and seventy-two cases. Not all of these cases went on to nephritis, of course. The albuminuria has no relation to the severity of the disease proper.

VACCINATION.—Following the epidemic of tetanus after vaccination, in Camden, N. J., the entire subject received a good deal of attention in America. About sixty cases have been collected and reported, not all of them occurring during this year, however. The need for great care in the preparation of the vaccine,

and for just as great care in the vaccination itself, is thus apparent. Van Harlingen⁸¹ has classified the various eruptions that follow vaccination. Voight⁸² has published a summary of the literature concerning vaccination for the year 1901.

THE SO-CALLED "FOURTH" DISEASE.—The consensus of opinion appears to be that the claims of Clement Dukes as to existence of an exanthem distinct from scarlet, measles and roethetn, are not justified.^{83 84 85 85a.}

WHOOPING COUGH.—Leuriaux⁸⁶ has discovered a small aerobic oval mobile bacillus, easily cultivated, which he regards as the specific cause of the disease. Serum prepared from the blood of horses, injected with increasing quantities of filtered cultures of this bacillus, brought about marked improvement in sixty-one out of the sixty-six cases of pertussis in which it was tried. As usual, various new remedies have been suggested as being of great value. Carbolic acid spray,⁸⁷ compressed air⁸⁸ and ozone⁸⁹ have been highly recommended.

MUMPS.—Blood examination in a series of cases shows constant absence of leucocytosis, showing that the exudate is a purely serious one.⁹⁰

TYPHOID FEVER.—Hand and Walker⁹¹ conclude after a careful analysis of seventy-one cases, that typhoid in children does not differ in its essence from that seen in adults, except in its lower mortality (about 4 per cent). Griffith believes that the diseases run a shorter course, not averaging over seventeen days, with a mortality of about three per cent. He notes the fact that it may simulate meningitis more than is the case with the adult, especially in its onset. The former view as to the great rarity of typhoid in infancy, is not in accord with more recent experience.

INFLUENZA.—Several articles concerning influenza-nephritis have appeared. Miller⁹² reports a case, has collected several more, and gives an extensive bibliography. Soumaripas⁹³ says that the nephritis after influenza is not rare in childhood, and states that the onset is often insidious.

TUBERCULOSIS.—At the Carlsbad meeting of the German Pediatric Society, Schlossman read a paper on tuberculosis in infancy.⁹⁴ He says that he has never seen primary tuberculosis of the intestine or mesenteric glands, and doubts whether it occurs. Tubercular infection from milk plays absolutely no role in Germany. In the discussion which followed, it appeared that there was a general concurrence in these views. It is questionable whether this attitude is not attributable, in a measure at least, to Koch's pronunciamiento. Certainly, such statements could not pass unchallenged before a body of American pediatricists. Jacobi⁹⁵ has recently called attention to the great frequency of primary intestinal tuberculosis in infancy. He believes that the gastro-intestinal tract may be the initial source for many cases of tubercular peritonitis. He says that no rules prohibiting the sale and use of milk from cows with udder or general tuberculosis can be too strict. It is also worthy of note that Anjesky⁹⁶ found tubercle bacilli in the market butter of Budapesth, and that these bacilli were virulent for guinea-pigs.

Schlossman also recommended tuberculin as a diagnostic aid, claiming that its careful use was free from danger.

Much attention has been paid to the treatment of tubercular peritonitis. At the Carlsbad meeting the general opinion was not altogether favorable to laparotomy, especially not to routine laparotomy. With this view, Comby⁹⁷ is in accord. He thinks the results of medical treatment, as generally practiced, just as good, or better than those from laparotomy. Rotch⁹⁸ believes in laparotomy

especially in those cases where the tuberculosis is represented by miliary tubercles with marked ascites. The outlook from operation is not so good where there are thick adhesions without much fluid. The X-ray has been used with good results, when laparotomy was contraindicated. Cytologic examination of the ascitic fluid⁹⁹ in tubercular peritonitis has shown marked preponderance of the mononuclear lymphocytes.

MENINGITIS.—Cytologic examination of the cerebro-spinal fluid^{100 101} shows that in tubercular peritonitis the mononuclear lymphocytes predominate, whereas in cerebro-spinal meningitis the polymorphonuclears are in excess. This is in accord with the statement of Widal, that a lymphocytosis indicates a less active meningeal reaction than is the case where the polymorphonuclears are in excess. For the pseudo-meningitic forms no law is possible, though here a negative find may have great value. Hutinel¹⁰² contributes an interesting article on non-suppurative (serous) forms of meningitis.

SYPHILIS.—Kerley¹⁰³ believes that malnutrition in children, for which no other cause can be found, is often a manifestation of hereditary syphilis. Good results have followed antisyphilitic treatment in such cases. Brunet¹⁰⁴ says that erosion of the first lower molar is a valuable sign of hereditary syphilis. Gluck¹⁰⁵ cites cases to prove the fallacy of Profeta's law, that healthy children born of syphilitic parents cannot contract syphilis.

GLANDULAR FEVER.—Hochsinger¹⁰⁶ denies that glandular fever is a disease per se, and considers that the enlarged glands and fever are always secondary to some infectious process about the head, mouth or nose.

ACUTE EPIDEMIC OTITIS MEDIA—Rey¹⁰⁷ reports 57 cases. They were generally preceded by coryza (not influenzal). The specific cause is generally the pneumococcus gaining access through the nose.

DISEASES OF THE DIGESTIVE SYSTEM.—Audard¹⁰⁸ has reported cases and summarized present knowledge of Riga's (or Fede's) disease—vegetating ulcer near the frenum of the tongue. Forchheimer¹⁰⁹ in a paper on remote diseases arising from tonsillar infection, reports cases of appendicitis and infective icterus.

STOMACH.—Fischer¹¹⁰ has made a series of analyses of stomach contents in children. In atrophic children, and in those with subacute dyspepsia, he found no free HCl. In very young infants, at commencement of digestion, lactic acid is in excess. In healthy children, over one year of age, the HCl is present as in adults. Hecker¹¹¹ reports the results of his studies along the same line. A very extensive bibliography is appended.

Saunders¹¹² reports several cases of pyloric stenosis in infancy. He calls attention to the intermittent character of the symptoms, and believes that pyloric spasm is an important factor in the production of emesis. This spasm may be due to hyperacidity, which should therefore be corrected.

SUMMER DIARRHEA—Duval and Bassett have discovered that the B. dysenteriae (Shiga-Flexner) is the specific agent in the production of summer diarrhea. Gordon¹¹³ calls attention to the importance of the coli group as etiological factors. There has been much written concerning treatment. The general principles advocated are:^{114 115 116 117 118 119} Prophylaxis—obtaining of pure milk, the cutting down of diet in the heated term. Treatment—expelling of peccant material, withholding of all milk for a time, with substitution of an easily assimilable carbohydrate diet, with free use of boiled water. Astringents, especially bismuth, with opiates, if necessary. Colon irrigation in selected cases, not in all.

In a short monograph on gastro-intestinal diseases in infancy, Trumpp¹²⁰ summarizes modern German views. It is worthy of note that he insists that the importance of ectogenous infection is usually overestimated. And he believes that "pathogenic bacteria are found in milk only exceptionally, and do not multiply in it." He believes that lack of assimilation, rather than lack of digestion proper, is at the bottom of many of these disturbances. Rey¹²¹ calls attention to the close connection between gastro-intestinal disturbances and infantile eczema in many cases. Treatment should be directed accordingly.

DISEASES OF THE LIVER.—Skormin¹²² calls attention to the various forms of icterus seen in infancy—icterus neonatorum, septic icterus, Winkel's disease, post-hemorrhagic and toxic icterus, catarrhal icterus (very rare), that resulting from acute yellow atrophy, congenital defect of the bile passages and hereditary syphilis. Bibliography appended.

German authors are calling attention to the increasing frequency of alcoholic cirrhosis in children in that country.¹²³ Here in America hepatic cirrhosis in childhood is rare, being usually syphilitic.¹²⁴ In 370 consecutive autopsies on young children Wollstein found fatty infiltration of the liver 214 times (58 per cent.), occurring in cases of tuberculosis, congenital syphilis and gastro-intestinal diseases.

Schlesinger¹²⁵ has collected all the cases in the literature of carcinoma of the liver in childhood. There have been reported ten cases of primary and eleven cases of secondary hepatic cancer. Of the secondary cases, nine showed the primary growth in the kidney, the other two in the pancreas.

DISEASES OF THE RESPIRATORY TRACT—CROUPOUS PNEUMONIA.—Pfaundler¹²⁶ noticed in fifty-five cases that the knee jerks were absent on the second or third day. No relation exists between this sign and the part of the lung affected. He considers the sign of diagnostic value.

BRONCHO-PNEUMONIA.—Bichat and Goepfert¹²⁷ report several cases of suppurative arthritis occurring in the course of broncho-pneumonia, which they regard always as evidence of septicemia. In the treatment of this condition, Sheffield¹²⁸ recommends application of a poultice made of five parts each of flax-seed meal and camphorated oil, one-half part of mustard, and enough boiling water to make a thick paste. Mitchell¹²⁹ has discarded the poultice, and prefers hot baths (105° F.) continued for ten to twenty minutes, distinctly longer than usually recommended. Zangger¹³⁰ prefers baths at 86° F. reduced to 76°, with cold chest packs at night.

PLEURISY.—Kelley¹³¹ describes a new sign of pleural effusion in children. With large effusion, rapidly poured out, the child lies *not* on the affected side, but upon the back, because in this position there is least compression of heart and lungs, and greatest freedom of circulation and respiration. Pzewalski¹³² gives as an early sign, narrowing of intercostal spaces and increased resistance on palpation.

EMPHYEMA.—Koplik¹³³ says the differential diagnosis of empyema can often not be made from that of simple pleurisy, except by puncture. It follows acute affection of the lung in 95 per cent of the cases. In the post-pneumonic form the prognosis is not bad, except if the pneumonia persist. Even in the tubercular form it is better than in this class of cases in adult life. Dowd¹³⁴ recommends excision of about one and one-half inch of the seventh or eighth rib in posterior axillary line, incision and drainage. The cavity should not be washed

out, except to remove purulent coagula or where there is necrotic lung tissue. Secondary operations should not be done until good opportunity has been given for healing.

DISEASES OF THE CIRCULATORY SYSTEM.—Lees'¹³⁵ presidential address before the Harveian Society this year had for its subject "The Heart of the Child." In this admirable exposition Lees calls especial attention to the need for routine examination of the heart in children, inasmuch as conditions which might be rectified by appropriate treatment are frequently overlooked. The address gives an excellent summary of present-day knowledge of this subject. Smith'¹³⁶ calls attention to the great frequency of acute dilatation of the heart in children, especially after the acute infections, and the need for prolonged rest if such conditions exist. Winkelbach-Gronigen'¹³⁷ reports two cases of septic endocarditis treated by intravenous injection of 2 per cent. solution of collargol. Both cases recovered.

DISEASES OF THE URO-GENITAL SYSTEM—URINALYSIS IN CHILDHOOD.—Crandall'¹³⁸ says that specific gravity is low, reaction faintly acid or neutral, amount of urea proportionally large. In earliest life amount of uric acid is largest. Presence of albumen and sugar in earliest weeks of life need not be pathological.

CYCLICAL ALBUMINURIA.—Huger'¹³⁹ says this may be due to (a) inflammation and degenerative changes in renal structure; (b) alterations in quality of the blood which render its serum albumin more diffusible; (c) alterations in blood pressure.

NEPHRITIS.—All forms, acute, subacute and chronic, are found, the former most often as a sequel of the acute infections, the latter as a result of acute, especially of glomerulo-nephritis. Septic nephritis (usually of streptococcic origin) is seen particularly often in malignant scarlet.¹⁴⁰ As a result of gastro-enteric disorders acute and chronic degenerative kidney lesions are frequently found. Bacteria and their toxins and the products of fermentative changes are the exciting causes.¹⁴¹ Characteristic symptoms are wanting, though this is true very often in the nephritis of childhood. Several cases of renal decapsulation for chronic nephritis have been reported.^{142 143} The results while quite good were hardly brilliant.

PYELITIS AND CYSTITIS are both quite common in children, and, according to Morse,¹⁴⁴ usually due to infection by *B. coli communis*.

INVOLUNTARY ENURESIS.—In an article on this subject, Lydston'¹⁴⁵ reports very good results from the use of santonin in neurotic cases, independently of the existence of worms.

LYMPH GLANDS.—The importance of the glandular system of children as a protective filtration system is becoming more and more recognized. In early years these glands have attained full functional activity. They give origin to lymphocytes, thus determining the lymphocytosis of childhood.

In the course of divers acute infections, they react intensely. The reaction is protective, and the leucocytosis destroys or attenuates the virus of the germs. This explains why certain infections run milder courses in childhood than in adult life.¹⁴⁶ It also partly explains the enormous frequency of tubercular adenitis. Increasing attention is being shown to one form of this, viz., tuberculosis of the tracheo-bronchial glands¹⁴⁷ which give rise to rather definite signs and symptoms.¹⁴⁸

GENERAL DISEASES—RHEUMATISM.—The modern view is beginning to class rheumatism as an infection. Poynton and Payne¹⁴⁹ have continued their experiments and have succeeded in demonstrating and growing their diplococcus from heart valves, pericardium, tonsils, more rarely from joints. They believe that some cases of nephritis, pleurisy, pneumonia, and chorea may be of rheumatic origin. Menzer¹⁵⁰ in investigating the subject of tonsillar infection finds that bacilli do not pass through the tonsils into the lymphatic circulation, but through the peritonsillar structure directly into the circulation. Comby¹⁵¹ has published a most interesting and complete resume of the subject of arthritis (as a whole) in childhood.

Epistaxis as the first symptom of rheumatism in children has recently been noted in ten cases.

With reference to treatment, Crandall¹⁵² aptly considers the "management of rheumatic children," believing that children who have had one attack need careful watching for prolonged periods. He advises intermittent administration of salicylates, over long periods of time, even in the absence of definite attacks.

Chipman¹⁵³ reports a case of acute rheumatism showing pyemic temperature curve and very severe symptoms treated (with excellent results) with anti-streptococcic serum.

RICKETS.—Ausset¹⁵⁴ (in common with many other French writers) does not believe that rickets is ever caused by the use of sterilized milk; in fact, he believes that "sterilized milk is better for infants than wet-nurses."

It is believed by some authors that a relation exists between rickets and the thymus gland, as proven by experimental removal of the gland in animals. In 300 autopsies on children who had had rickets, gross changes in the thymus were found constantly.¹⁵⁵ Good results have also followed the internal administration of thymus gland in rachitic children. No bad effects were observed.¹⁵⁶ Carriere¹⁵⁷ reports good results from the use of lecithin in cod-liver oil.

INFANTILISM.—Meige¹⁵⁸ in a review of the subject says that there are two types: (a) Myxedematous, a specific autointoxication with defective thyroid metabolism, and symptoms like those of myxedema.

(b) Type Loraine, with defective arterial development, anangioplasia and resulting insufficient nourishment of tissue.

In this connection may be mentioned an observation of Koplik and Lichtenstein.¹⁵⁹ They found in cretins, idiots and congenitally deficient children a marked prominence of the antithenar eminence over the os pisiformis.

ACHONDROPLASIA.—Several cases of this interesting condition have been reported by Morse¹⁶⁰ (in detail), Comby,¹⁶¹ Cautley.¹⁶²

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NEUROLOGY.

IN CHARGE OF

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An attempt will be made in the following pages to give a resume of the most important contributions to neurology which have appeared in the year 1902. No effort at completeness will be attempted, but such articles have been selected from the German, French and English literature which in the compiler's opinion seem best adapted to show on what line neurology has advanced during this year. If seemingly important articles have been omitted, it is for the following reasons: either the article has appeared in a journal not found at a medical library or unnoticed in the *Centralblatt*, or has not been found in the special journals in the writer's own collection, or that the article is too technical for abstract in a paper which is meant for the general practitioner who may have more than the usual amount of interest in the subject of neurology.

ANATOMY AND PHYSIOLOGY.—The nerve cell has been the subject of a considerable number of papers, but not nearly so great as in the preceding years. This may be due principally to the work of Apathy and Bethe, which called attention to other structures than the nerve cell; namely, to the fibrillæ, or perhaps to the growing tendency to regard further progress in the anatomy of the nerve cell as dependent upon such an improvement in technique which will exclude artificial appearances. Such an advance has not as yet taken place. The best single article on the newer views in regard to the nerve cell is that by Heinrich Vogt.¹ In this paper a complete bibliography of two hundred and forty-one titles is given. This enormous material is critically analyzed by the author; he concludes, first, that the fibrillary structures of the nervous tissue was first shown by Max Schultze. The fibrillæ must be regarded as specific elements of the nervous tissue; second, that the modern fibrilla theory is chiefly the result of the work of Apathy and Bethe. Since their work, the continuity of the fibrillæ is a proven fact. Third, the neuron theory must be modified, as Verworn suggests. The newer conception is less concerned with the question of the unity of the individual neuron than with the part which the nerve cell plays in nervous processes.

SYMPTOMATOLOGY.—Kernig's Sign. This symptom has excited much interest since its discovery. The tendency has been to regard it in a wider sense than indicative of a meningeal lesion. Sailer² reports two cases in which this sign was present when the lesions were in the brain and on the opposite side upon which the symptom was found. His conclusions are: First, Kernig's sign may occur as the symptom of focal encephalitis, and in this condition may be present upon only the opposite side of the body. Second, in these cases there may be a persistent tonic spasm of the flexor muscles of the arm, which, however, does not resemble Kernig's sign in its mechanism. Third, the most reasonable explanation of Kernig's sign that we have at present is to ascribe it to an irritative lesion of the pyramidal tract that diminishes, but does not destroy its functional activity. William G. Shields³ examined one hundred non-meningeal cases for the presence of this sign. In five cases the sign was present. F. S. Clark⁴ found that the sign was absent in three cases of meningitis. In two of them the

meningitis was tuberculous. This confirms the opinion that this sign in tuberculous meningitis is very unreliable.

REFLEXES.—There have been a number of reflexes discovered in this year, but most of them are of but slight aid to diagnosis. The work on the Babinski reflex is by far the most important. Among the newer reflexes, the supra-orbital, discovered by McCarthy, deserves first place. Hamburger⁵ found that the main conclusions advanced by him concerning the Babinski reflex, in a former article, are confirmed by his further studies. His conclusions are that the isolated dorsal inflection of the great toe is a certain sign of a lesion affecting the motor fibres of the internal capsule; that the dorsal contraction of the great toe is found especially in all hemiplegias; that the reflex is almost always wanting in those cases of cerebral paralysis which, on account of numerous insults, produce an atypical clinical picture of spastic paretic motor disturbance. Three fresh cases of apoplexy were studied by him, in one of which the examination could be made five minutes after the stroke. In all three cases the reflex was at first absent but appeared later. In cases where there is a bilateral Babinski, the author believes it means that the ventricle has been broken into. One case proved this point at autopsy.

SUPRA-ORBITAL REFLEX.—There has been more or less discussion concerning this reflex discovered by McCarthy in 1901. Von Bechterew⁶ denies the right to McCarthy to designate this as a true reflex. McCarthy⁷ answers this objection and others and especially notes that the reflex described by him under the name of supra-orbital is not mechanical and does not refer to a movement of the lids, but to a fibrillary contraction. The fibrillary contraction of the muscle fibrils of the lower lid and not the movement of the lids themselves make up the reflex.

An experimental investigation by Turner⁸ is referred to here on account of the important data derived from his work in regard to the state of the knee jerks in man after transverse lesions of the cord. This paper is easily the most important contribution to the subject of reflexes which the year has given to us. In this brief resume no satisfactory abstract can be given. From a clinical point of view, Bechterew⁹ calls attention to the slowness of the knee jerk in multiple neuritis and to the quick fatigue of the same in cases of myelitis. These changes are observed in convalescents and during the development of certain diseases, such as tabes and neuritiden. They seem to point to a disturbance in the reflex arc which is not so deeply concerned as when the total disappearance of the tendon reflex occurs. Perhaps these phenomena may have a diagnostic importance, for example in the early stage of tabes, when the other symptoms are not pronounced. A number of other reflexes have been described during the year, most of which have no clinical importance as yet. The most noteworthy of these are Steiner's infra-spinatus,¹⁰ Von Solder's corneo-mandibular¹¹ and Bechterew's lumbo-femoral.¹²

MULTIPLE SCLEROSIS.—The best single article on this disease is that by T. Hoffman.¹³ This is an excellent resume of our knowledge on the subject. This paper is based upon the observation of one hundred cases and the post-mortem examination of three. Under etiology, the greatest importance is given to trauma and infectious agents. In fully one-half of the cases no etiological factor was obtainable. The polymorphic character of the symptoms is especially emphasized. As a matter of fact, outside of the classical symptoms, such as

nystagmus, intention tremor, and spastic paretic gait, almost any symptom peculiar to the nervous system may be a part of the clinical picture of multiple sclerosis. Great stress is laid upon the eye symptoms, and in this respect the presence of a beginning optic neuritis, especially of the temporal side of the eye ground, is of the greatest significance. All cases of so-called hysterical optic neuritis, in which eye ground changes are found, are probably cases of atypical multiple sclerosis. In the multiple sclerotic foci may be observed changes in the blood vessels, in the neuroglia, and in the specific nerve elements. Outside of this increase in the neuroglia elements, the most striking and perhaps the characteristic change is the disappearance of the myelin sheaths with the normal condition of the axis cylinders and nerve cells. The preservation of the nerve cell, with an intact axis cylinder, prevents secondary degeneration, a fact which may be regarded as characteristic of this disease. In which of the three elements of the central nervous system the process plays its chief part, whether in the neuroglia, the blood vessels or the nerve cells, is as yet undecided. A paper by E. Flatau and J. Koelicher¹⁴ brings out in a histological study the close relationship between myelitis and multiple sclerosis, and the conclusions reached that no certain characteristic change has been found which may be regarded as absolutely typical. The assumption is that the process which produces the myelitic symptoms is more intense and reaches more deeply into the tissues of the cord than that which produces multiple sclerosis. The absence of softening in the latter is a proof of this. Possibly the difference is merely one of degree. The increasing importance of infection and intoxication is emphasized also in this article. An article by Carrier¹⁵ calls attention to the possible significance of syphilis as an etiological factor in this disease, and deserves mention chiefly for the reason that any such relation has always been denied. The proof here given is not very convincing. A case exhibiting the occurrence of both tabetic and multiple sclerotic symptoms in the same individual is an interesting clinical contribution to the subject by Sinkler.¹⁶

TABES DORSALIS.—The number of papers that have appeared on tabes have been very large. No special advance in our knowledge of the subject can be noted. To the question of infantile tabes a very important place has been given, and the papers that have appeared this year on that subject have permanently settled the question of their occurrence. Mass,¹⁷ Idelsohn,¹⁸ and Bloch¹⁹ have written papers on this subject which deal with well defined cases of tabes in infants and in young adults in whom recent syphilitic infection is not probable. In most of such cases hereditary syphilis is either directly proven, is highly probable in one or both parents. The difference between adult and infantile tabes seems to lie rather in the benign character of the latter than in any marked difference of symptoms as such. In Bloch's case there was no evidence of syphilitic infection on the part of the patient. In none of the cases was any evidence of syphilis present, nor did any antisyphilitic treatment avail anything. This points to the metasymphilitic origin of such cases. The chief contribution to the pathology of tabes is found in Thomas' and Houser's article²⁰ on the study of the posterior roots and the posterior root ganglia in tabes. They come to the conclusion that the essential lesion of tabes is a dystrophy, which affects in its whole course the sensory peripheral protoneuron. The histological changes are characterized by alterations in the nerve fibers, similar to a certain extent to those found in certain toxic neuritides, which are either a result of experiment

or of disease. Although the cell body in general is found unaffected, it is sometimes the seat of atrophic lesions. Although anatomical lesions in the cells are rare, it is reasonable to suppose that its trophic function is to a certain degree compromised.

TUMORS.—There has been no marked advance in our knowledge of the effects produced by tumors affecting the central nervous system, although a number of papers of more or less interest have appeared during the year. Perhaps the most instructive has been the effort of Mills and Phaler²¹ to locate the position of a cerebral tumor and to indicate the seat of operation by means of the X-ray. In both of these cases the shadow of the tumor was obtained. Operation and autopsy in one case, and operation alone in the other, confirmed the findings. In a subsequent paper by Mills²² this subject is considered from the surgical standpoint from a neurologist's point of view. This paper is of interest to both the surgeon and the neurologist and contains the latest and best proven data on this subject. Oppenheim²³ describes a case of unusually accurate localization in a tumor of the spinal cord, in which it was found necessary to remove only two laminae to reach the tumor. This is certainly an example of very exact localization. Most of the other papers on this subject concern themselves with the pathology of such growths and the explanation of symptoms which their unusual localization produces.

MYELITIS.—The most suggestive paper on this subject is by Singer,²⁴ in which he calls attention to the important role which syphilis plays in the causation of acute myelitis. In two cases the chief pathological change was found to be in the blood vessels, in the form of a syphilitic arteritis. In a review of nineteen cases, coming under the author's observation, a history of syphilis was found in fifteen. The interest of this investigation lies in the fact that in seventeen out of nineteen cases there was either syphilis or senile degeneration, the two most potent factors in the causation of thrombosis of arteries.

POLOIMYELITIS.—The question of the occurrence of this disease in the adult is treated by Taylor²⁵ in an article in which he describes six such cases, and discusses the relationship of this disease with some others, notably Landry's paralysis. Some of his conclusions are as follows: Acute poliomyelitis is a well-marked clinical affection. This disease has frequently been confused with multiple neuritis and so-called Landry's paralysis. Its anatomical basis is a primary inflammation in the distribution of the ventral arteries of the cord, leading to a destruction of nerve cells. There is no sharp line to be drawn between these lesions and still more extensive ones giving rise to a totally different clinical picture—*e. g.*, encephalitis, polioencephalitis, etc. Anatomically this disease is much less sharply characterized than it is clinically. From a practical point of view, it is well to consider such cases poliomyelitis which show a flaccid atrophic paralysis of sudden onset, with definite anatomical changes, limited to the ventral horns of the cord and their immediate vicinity.

MUSCULAR ATROPHY.—A considerable number of interesting cases have been published during the year, many of them in the French journals, especially in the *Nouvelle Iconographie*. The general tendency of these articles has been to set aside the old division of cases into one category or the other, and to regard the question of classification as still unsettled. An article by Cohn²⁶ sums up in the best manner the different points which the discussion of classification has touched upon. He points out the fact that all attempts at limitation by special

forms based upon the anatomical peculiarities are invalidated by the fact that, first, there are intermediate forms in all clinical types, and, second, in one and the same anatomical form, the clinical picture may be entirely different. The former sharply defined distinction, based upon the occurrence of the reaction of degeneration in the spinal type and its absence in the purely muscular type is weakened by the constantly growing number of exceptions to this rule.

NEURITIS.—There have been some interesting clinical papers on neuritis, chiefly in the sense of showing rare forms in point of etiology. Diller's paper²⁷ on the occurrence of multiple neuritis with Basedow's disease, and Luzatto's case²⁸ of malarial neuritis, with autopsy, are worthy of mention in this regard. J. Kron's paper²⁹ on a case of arsenical neuritis is interesting from the fact that the sphincters were involved. This serves to invalidate, to some extent at least, the idea that the involvement of the sphincters was a valuable differentiating sign between spinal cord affections and neuritic ones. In the latter the sphincteric control was supposed to be retained, and in the former it was not.

NEUROSES.—Hysteria, as is usually the case, has been the subject of numerous papers, mainly in the way of clinical reports upon rare cases, such as Burchard's³⁰ case of hysterical gangrene, Matterer's³¹ case of hysteria and epileptiform crises with fever and spontaneous ecchymoses, and Vaillon's³² case of hysterical breast. Such reports are interesting, but they throw little light upon the nature and cause of the disease, which is so much to be desired at present. Greff's³³ paper on the central limitation of vision in hysteria is valuable, for the reason that he indicates a means of differentiating this from the simulated form, always a matter of difficulty. The acuity of vision in these cases is almost always normal, in spite of the marked concentric narrowing of the field. This in itself is pathognomonic of hysteria, because there is no known eye condition which will produce such intense limitation of the field of vision with a normal ophthalmoscopic finding. A second interesting peculiarity consists in the fact that when the examining distance is increased the patient's field of vision does not increase in proportion to the angle thus formed, but remains contracted as before. A number of papers on neurasthenia have appeared, but none seem to show any special advance on our knowledge of the subject.

EPILEPSY.—It is very encouraging to note the wide interest in this subject which the number of papers and their quality demonstrate. There have been two marked advances in our knowledge of epilepsy during the year. One in respect to its dietetic treatment and the other in the study of the blood. By far the most significant paper which has appeared is that of Ceni.³⁴ The object of this paper is to study the pathogenesis of epilepsy for the purpose of adding to the proof of the autotoxic theory of the disease. Small doses of blood serum of epileptics were injected into other epileptics for the purpose of ascertaining if the specific poison would introduce into the organism any property that might be of therapeutic value to other less severe and earlier cases. Following this was an attempt to render a patient immune against the toxic substance found in his own organism by giving progressive doses of the same serum. The therapeutic results are divided into two groups: eight cases with positive and two with negative results. It may be said that even if the benefits obtained, as regards the general condition and the more or less remarkable diminution of all epileptic manifestations, are only transitory, they are none the less of sufficient duration to commend the treatment to further trial. A number of papers have appeared

which deal with the dietetic treatment of epilepsy, as first advocated by Toulouse and Richet. This treatment in brief consists in the withdrawal of all chlorine compounds from the food, especially the NaCl, and supplying in their places the bromide salts. In this way very large doses of the bromides are well borne. Schaefer³⁵ tried this method on some old epileptics for a period of two weeks, and found very definite improvement in both the attacks themselves and in the general psychological condition of the patients. Schnitzer³⁶ reports his experience in sixteen cases. The diet was as follows: per day, one and one-half litre milk, fifty gr. butter, three eggs unsalted, four hundred gr. bread and some fruit. The bread was baked with NaBr instead of NaCl, and each four hundred gr. of bread contained three gr. of bromide. His results are in two cases disappearance of all symptoms, in ten cases great improvement, in two slight improvement and in two no result at all. The experiment lasted forty-two days. Whatever else can be said of this procedure, it can safely be admitted that it represents the greatest advance in the dietetics of epilepsy that has as yet appeared, and if it is combined with the methods used in the colony treatment of epileptics, good results are sure to follow. M. Bra³⁷ describes an organism which is found in the blood of epileptics, and which he thinks is the probable cause of the symptom. To this he has given the name "neuro-coccus." Further investigation will be necessary before this theory can be accepted. Feinberg³⁸ treats of luetic epilepsy in a very interesting paper. He differentiates two types: first, an epilepsy without any cerebral disturbances, and second, epilepsy with cerebral phenomena which immediately precede or follow it. This paper is of great interest, as it throws light upon the subject, which has always been one of great obscurity.

MYASTHENIA GRAVIS.—Great interest has been aroused in this condition since the publication of Oppenheim's monograph, and since the appearance of numerous reported cases. The most notable contribution of the year has been the Goldflam and Flatau³⁹ paper which extends through eight numbers of the *Neurolog. Centralbl.* Eight cases are reported together with an autopsy. Microscopical study of this case showed very peculiar changes in the muscle substance. The microscopical findings in cases of this kind have been so varied and so indefinite that no special weight can be placed upon this unique appearance. At present it must be admitted that although our knowledge of the clinical aspect of this disease has become very definite, as far as its pathology is concerned we are in as much doubt as ever.

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GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

SURGERY FOR BRIGHT'S DISEASE.—In October, 1901, R. Harrison reported six cases of kidney symptoms or lesions in which, after being operated upon by puncture of the organ, the symptoms or lesions disappeared or improved. But these were chiefly of inflammatory nature, the author taking scarlatinal nephritis as a type. He contented himself with splitting the capsule along its convex border, or extending the cut through the kidney substance and into the pelvis, if indicated. To this he added numerous punctures over the surface of the organ. He considered that the tension of the capsule about the inflamed kidney had a harmful influence upon and prevented its repair, just as ocular tension does in glaucoma. He says that when this tension is relieved, urinary excretion increases at once and the general circulation improves. In December of the same year Edebohls described his operation of kidney decapsulation for the distinct purpose of curing chronic Bright's disease, and emphasizes the fact that in nearly one-half of all the cases the disease was unilateral. He found no difficulty in recognizing the disease in the kidney as it lay pulled through the wound before him with the blood circulating through it. Contrary to Harrison's conclusion and belief that it is to the relief of renal tension that is due the improvement, Edebohls regards the improvement of the circulation of the kidney as the chief factor which leads to benefit. By removing the kidney capsule the vessels of the organ come into intimate contact with those of the fatty capsule.

The results which he reported were so favorable that other surgeons have been led to essay the operation. Among them is Guiteras, who reports his experience in three cases. In one of them there was improvement; another had been operated upon too recently for deductions. In the third case the administration of the anesthetic (chloroform) caused such alarming symptoms in the patient that the operation was abandoned. He concludes, with Edebohls, that nephropexy is a beneficial procedure in a movable kidney of a patient suffering from chronic nephritis, and that nephrotomy is a valuable operation in unilateral chronic nephritis associated with hematuria and nephralgia, but holds in abeyance and approaches in uncertainty Edebohls' kidney decapsulation.

Pousson's experience has not been so favorable. Out of six cases operated upon he has had the misfortune of losing two; but while his death-rate is high, the four cases which recovered have shown considerable amelioration of the con-

dition. He has collected thirty-three cases from literature with a mortality of two, and says that while practically all the cases of chronic nephritis that come to the dead-house are bilateral, with all of the kidney substance involved, yet those that come to the surgeons are susceptible of being unilateral, since the disease is not so far advanced. He calls attention to the fact that the side on which edema is greatest has the more diseased kidney, and that operation upon one kidney, and the benefit following, will influence for good the disease in the other kidney. He employs Harrison's method of incising the capsule, but commends the nephrocapsectomy of Edebohls, and says that while the relief of renal tension may inaugurate the improvement, the operation of Edebohls, by allowing the formation of new blood vessels, may keep up this improvement and lead to cure.

MOVABLE KIDNEY.—This subject has claimed the attention of numerous surgeons and medical men, the surgeons protesting against the conservatism of the latter, while the medical men regard the numerous operations of the surgeons as not only unnecessary, but even meddlesome. Watson enters a protest against the current attitude of medical men. They hold that the operation is unjustifiable because of the likelihood of the recurrence of the mobility; the failure of the operation to relieve symptoms; because the condition causes little or no damage to the kidney; and, further, because most neurasthenics show signs of movable kidney. Watson considers that while this, to some extent, may be true, yet the nephrotosis does cause neurasthenia; serious consequences to the kidneys, such as hydronephrosis, pyonephrosis, fixation in an abnormal position; and, rarely, gangrene of the organ.

Gallant speaks, on the other hand, from the medical side, and says that from ninety to ninety-five per cent. of women who suffer from nephrotosis can be relieved without operation. He first removes other sources of peripheral irritation by operation if needed, and employs rest and support as a means of cure, having devised a very ingenious corset to give support.

Goelet uses silkworm gut boiled in lysol (which renders it as pliable as cat-gut) for fixation sutures; thinks that nephropexy should be done even though the nephrotosis be but one element in a general enteroptosis, and has observed that the kidney most prolapsed is the most congested. He brings his fixation sutures entirely through the skin, ties them over gauze and places gauze under the lower pole of the kidney. The wound is brought together with adhesive strips.

Cabot having had a case of severe bleeding in a patient with nephrotosis, which was evidently due to the obstruction to the renal vein caused by the sagging of the kidney (the bleeding was relieved by the prone position with pelvis elevated), suggests that in many of these large and movable kidneys, in addition to the hydronephrosis, congestion plays an important causative role in the enlargement, and is, too, probably, the exciting agent in cases of hematuria without a discoverable cause, that we frequently cure by cutting down upon the kidney and splitting the capsule.

Mallett considers that the fixation of a kidney in a malposition is often the cause of failure to relieve symptoms after the operation, because of torsion or dragging upon its ureter, vessels and nerves. This malposition, when the means of suture is that generally employed, consists of stitching the convex

border too far backward, thus causing the pelvis and its vessels to be tilted forward, obstructing the vessels and ureter.

Carwardine uses carbolic acid, freely painted over the whole surface of the kidney except the hilum, in order to secure by means of granulating tissue thus produced firm adhesions.

Edebohls, again, calls attention to the frequency with which movable right kidney and appendicitis coexist, and advocates examining and removing the appendix, as well as examining the bile passages, through the lumbar incision made for anchoring the kidney. He does not hesitate to do bilateral nephropexy at one sitting, employing his well-known method of decapsulation. For this purpose he places the patient upon the table with the abdomen downward, and does not regard a slight mobility after recovering as incompatible with success.

Witherspoon says he is very certain that many of the dyspeptics (thin, nervous neurasthenics), with stomach, bowel and liver symptoms, could have the seat of their trouble traced to a kidney which, because of abnormal mobility, causes a chain of disturbances which are incorrigibly difficult to handle.

NEPHROLITHIASIS.—Great credit is due Leonard for the excellent work he has done in the field of calculus skiagraphy. In his experience the Roentgen method gives such positive results that out of two hundred and six cases examined error occurred in but four—errors due to faulty technique or faulty interpretation of the plate. The value of this method can be readily appreciated when we consider the difficulties of diagnosis and the dangers attendant upon other means. The x-ray has shown the greater frequency of ureteral calculi, and has enabled us to adopt a more conservative way of dealing with them. Among the possibilities of error are such conditions as phleboliths. The Roentgen method enables us to exactly locate a calculus, so that we can cut directly down upon it, and thus avoid exploratory incision into the kidney substance for other stones, and shows not only the location but the number of calculi as well, in addition to the information as to absence or presence of calculi in the other kidney. This applies to the ureter as well as to the kidney. To Bierhoff is due the suggestion that if the kidney pelvis is repeatedly distended by some bland sterile fluid it will bring about a movement of the calculus, which will be followed within twenty-four hours by distinct hematuria when a stone is present, and when no stone is present there is no hematuria.

RUPTURE OF KIDNEY.—Davis concludes that the expectant plan of treatment is permissible in cases of subparietal rupture of the kidney, where slight hematuria is the only symptom. Tumefaction, much blood in the urine, severe pain and history of great injury, each is a positive indication for prompt operative intervention.

URINARY LITHIASIS.—Urinary lithiasis, from Serginewsky's point of view, is very unequally distributed upon the face of the earth, and at times is met in veritable epidemics, with no discoverable local cause, except in Egypt, where the calculi are developed around a parasite which penetrates into the bladder. The study of the geographical distribution of urinary lithiasis reveals no specific cause as regards its etiology and pathogenesis.

URETERAL ANASTOMOSIS.—According to Smith, the ureter should never be implanted into the bowel, neither should it be tied to cause hydronephrosis, and

in view of the excellent results in transplantation into the bladder, nephrectomy becomes a last resort, hardly justifiable.

On the other hand, Peters reports four cases in which he transplanted the ureters into the rectum, using his method, by means of which he carries a rosette of the mucous membrane and muscle wall of the bladder adjacent the ureter into the rectum, and thus forms a real and efficient valve for preventing ascending infection. Three of these recovered. From the point of view of comfort and happiness of the patients, the result left nothing to be desired. In none of them was there any ascending infection, the observation in one case extending over more than two and a half years.

While performing vaginal hysterectomy, Turner cut the left ureter two inches from the bladder. Having accidentally split its proximal end, he made an anastomosis by implanting the lower into the upper segment, the patient making an uninterrupted recovery. Monroe reports a case in which one member of a double ureter was distended with pus. As it communicated with its fellow just above the bladder, a catheter passed into the ureter from the bladder drew clear urine, while pus exuded from around the catheter, evidently coming from the pus-distended ureter.

CALCULUS OF THE URETER.—Young considers that the lower portion of the ureter in the male is now as amenable to treatment as any other portion of the urinary tract, and as a means of diagnosis gives due credit for the valuable aid of the cystoscope, catheterism of the ureteres, differential examination of the two urines, and the value of the x-ray skiagraphy. When the stone is in the very end of the ureter it may be extracted by a ureteral catheter, cystoscopic dilatation of the lower end of the ureter, or through a suprapubic opening. When the stone is above the vesical junction it is best removed by the iliac route (extra peritoneal).

Leonard uses the x-ray for diagnosing ureteral calculus with a precision that allows of less than 2 per cent. error.

STRICTURE OF THE URETER.—Ureteral stricture has claimed the attention of Kelly, who gives as its etiology inflammations in the ureteral walls, caused by pyogenic cocci, gonococci and tubercle bacilli. There is no particular symptom diagnostic of stricture even in advanced cases, but the condition may be made out by palpation, inspection and catheterization. The pelvic portion of the ureter is easily accessible to palpation, and in women a stricture in this portion can often be felt upon vaginal examination. The upper ureter in man and woman is palpable through the air-distended rectum. The most characteristic of all signs of stricture of the ureter is the firm grasp with which the catheter is held by the stricture upon attempting to withdraw it. The treatment consists in dilatation with bougies, catheterization and lavage, resection (rarely used), extirpation of tract (in tubercular ureteritis), and division of the stricture. Important accessories to the treatment are evacuation of the old fluid above the stricture and sterilization of the upper urinary tract by the injections of solutions of boric acid, etc.

Ligature about the ureter during an operation, if removed before the close of an operation, will probably not have injured the ureter. Complete occlusion of the ureter, in the absence of impaction, leads to atrophy, with more or less dilatation of the ureter and pelvis of the kidney, and is justifiable only when an anastomosis is impossible (Sampson).

PROSTATE.—Surgery of the senile prostate, while becoming each year a more recognized and justifiable procedure, is still in an unsettled state. Almost every surgeon has an operation of his own, which differs more or less from that of others. This is good evidence that there is still much to be desired. The merits of the respective operations may be best judged from the following considerations:

THE BOTTINI METHOD.—Horwitz collects eight hundred and eighty-eight unselected cases of the Bottini operations, out of which seven hundred and fifteen were either improved or cured, the mortality being 5.7 per cent. As a result of these statistics, he places this procedure upon a firm basis. Young regards the small sclerotic prostates, and those of patients too old and feeble to safely undergo the shock of a satisfactory prostatectomy, as especially amenable to the electro-cautery incisor. He has made several improvements upon the Freudenberg instrument, and believes that prostates should be studied and incised intelligently, but as a rule usual three incisions—one posterior and two lateral—are entirely sufficient for most cases. Chetwood makes a perineal incision into the urethra, and through this, with his galvano-cautery instrument, incises the prostate as may seem required, and believes that in the majority of cases the requirements of any operation upon the prostate consists in the removal of the obstructing area and depressing the bladder opening into the prostate, so that the bas-fond may be properly drained.

Wishard cauterizes the prostate through a perineal opening, using his instrument, which admits of the work being done under the direct inspection of the eye in a bladder distended with air.

Meyer employs litholapaxy in combination with the Bottini operation. Bangs reports forty-two operations. Sixty per cent. of the patients have thrown away the catheter, 20 per cent. have increased the amount of spontaneous urination, and 20 per cent. showed little or no improvement, the mortality being three.

Guiteras holds that the mortality of prostatectomy is three times as great as in prostatotomy, and the failures are about as frequent; but the recoveries from the former are better than those from the latter. Very old men, with slightly damaged kidneys and prostates that do not feel very large on rectal examination, yet causing considerable urethral impediment, are cases for prostatectomy.

PROSTATECTOMY.—Fuller remarks in regard to the Bottini operation, that the statistics of a new procedure cannot be relied upon. Just as those of castration, which, in the beginning, were even better than those now reported from the Bottini operation, have not been verified by further reports, so with those of the Bottini operation. For radical relief in the majority of cases the question resolves itself into prostatectomy or nothing, unless suprapubic fistula. In the minority of cases it may be proper to consider in connection with prostatectomy the Bottini operation.

Ferguson does perineal prostatectomy by cutting down upon the apex of the prostate and through blunt dissection exposing the gland and opening its capsule transversely. By traction from below and depression from above, the prostate can be brought within easy reach and enucleated. No effort is made to save the prostatic part of the urethra.

Albarran is convinced that loss of vesical contractility is secondary to the

glandular lesions, and that the difficulties of urination are due to the mechanical obstacle of the hypertrophied prostate, together with the lessened vesical contractility. He operates from the perineum, injuring the urethra only upon the inferior wall of the prostatic portion. Prostatectomy is the operation of choice with him, and the perineal route furnishes the best method of doing it.

Lewis endeavors to select for each the most suitable operation, the suprapubic, perineal, or the Bottini.

The Bottini operation does not appeal to Syms as a sound surgical procedure; it does not remove the hypertrophied prostate and only partially the obstruction; it leaves a slough to separate and come away through the urethra. Perineal prostatectomy has, in his hands, much reduced the mortality of the operation. He has invented a bladder retractor, by means of which the bladder and prostate can be pulled down into the perineum so that the lobes can be reached and enucleated with the index finger. Prostatectomy should not be left as a last resort, but should be done before the patient is in a dying condition, or not at all.

According to Bryson the venous obstruction of the prostate plays an important role in the symptoms. He operates through the perineum, opening the urethra by a median incision. Having explored the bladder, he now with a blunt instrument opens the prostatic capsule from the floor of the urethra and enucleates the prostate with the index finger, taking care to destroy no more than the floor of the urethra. In order that the finger may the more easily enucleate the prostate from the perineum, he makes a counter suprapubic opening down to the bladder without opening its cavity, and through this by means of pressure with the hand forces the prostate more into the perineum.

Andrews operates infrapubically, that is, enters beneath the pubic arch, severs the prostatic attachments, removes a part of the prostate without entering the urethra, and thus relieves the gland from the fixed space behind the pelvis, allowing it to drop backward. This lowers the bladder outlet and does away with the retroprostatic pouch.

PROSTATIC PATHOLOGY.—Greene and Brooks, from the study of fifty-eight hypertrophied prostates, conclude that the hypertrophy is the result of chronic prostatitis, which arises most frequently from chronic posterior urethritis, of whatever cause.

Albarran and Motz say that the prostatic capsule is not a capsule proper to the organ, but is made up of the fibrous walls of the cavity which contains it, the base and summit being devoid of a capsule; that in hypertrophy the gland does not grow backward, covering the trigone, but, rather, the urethra and neck of the bladder elongate.

Halle and Motz hold that with prostatitis the lack of power of the vesical wall is largely due to the atrophy of the muscle fibres and their replacement by the large amount of connective tissue. The bladder of prostatitis is especially noticeable, in that there is an unequal hypertrophy of the internal muscular layer, allowing of the formation of trabeculae, and the atrophy of the external muscular layer permitting hernia of the mucous membrane, and thus the formation of sacci.

Lydston calls attention to fatty degeneration of the prostate and bladder as an important factor in genito-urinary pathology, and suggests it as one cause of failure of radical operations to relieve symptoms, especially in hypertrophied

prostates. He reaches the conclusion, from pathological and clinical studies, that posterior urethral inflammation is the exciting cause for prostatic hypertrophy.

Iastreboff considers that elastic fibres, which are found throughout the prostate in a thick network, and as a solid membrane around the capillaries, which by their action maintain the volume of the organ in its normal state, are of utmost importance. In hypertrophied prostate these fibres are diminished or absent, thus allowing of passive congestion. The disappearance of the elastic fibres in the conjunctive tissue of the prostate of old men, together with the dilatation of the veins in the granular parenchyma, favor the congestive state of the organ which accompanies its increase of volume, and augments the obstruction to micturition. The primary weakness of the bladder in the dysuria of old men resides in a quantitative diminution of the anatomical elements. These two processes, that is to say, atrophy of the muscles and disappearance of the elastic fibres, are important factors in the etiology of the symptoms.

PROSTATIC CALCULI.—Leverson recognizes two classes of prostatic calculi: that in which the concrement develops spontaneously within the prostatic tissue, having no connection with the urethra, and that which is frequently the result of some substance (uric acid crystals or vesical calculus) dropping into the prostatic sinus and becoming encysted.

THE BLADDER.—To measure the bladder capacity in organic inflammatory conditions, Lydston, to prevent surprise and reflex resentment on the part of the bladder, suggests a hypodermic of morphia or an application of eucaïn or cocain to the prostatic urethra. In those cases where there is a neuropathic disturbance of the bladder the patient should drink moderately of pure water during the evening, and when aroused at night by a desire to micturate should pass water on each occasion in a separate vessel. The greatest quantity obtained at a given micturition represents the maximum capacity of the bladder, from a clinical standpoint.

From the investigations of Halle and Motz it is evident that in pure chronic cystitis the lesions involve all the layers of the bladder wall; that the chronic vesical lesions accompanying strictures differ but little from those of pure chronic cystitis, while in prostatitis the lack of power of the vesical wall is largely due to the atrophy of the muscle fibres and their replacement by the large amount of connective tissue. In cachectic patients with neoplasms there is a true fatty degeneration of the bladder walls.

Margoulies calls attention to syphilis of the bladder, which he says is rare only because it escapes recognition. He reports three cases which resisted other treatment but yielded steadily and rapidly to specific treatment.

Schmidt adds much to our knowledge of ulcers of the bladder. He considers those of gonorrheal and non-gonorrheal cystitis, ulcers of tubercular and neoplasm origin, solitary ulcers and the *ulcus cystoscopicum*. Bladder irrigations and instillations are not sufficient to cure ulcers. They should be curetted and cauterized, this being most readily done through the operating cystoscope. In generalized cystitis this method is useless. The bladder should be opened and the entire mucosa curetted. In cystitis dolorosa, besides complete curettage, the bladder should be compactly tamponed and the tamponade should be kept up until the bladder walls have lost their sensitiveness.

SEGREGATION.—Hartman finds that it is useless to have recourse to the del-

icate and sometimes dangerous maneuver of catheterizing the ureter to determine the functional value of each kidney. He presents Luys' segregator, which is composed of two metallic catheters paralleled, between which, in a bed, lies a chain that may be tightened or loosened by a mechanism in the handle. As the chain rises from the curve it carries with it a rubber partition, thus dividing the bladder into halves. The urine from each ureter passes out separately through the catheters.

Cathelin gives the details of his technique and his principal results in segregation with his instrument, which has the shape of an ordinary sound. A rubber membrane with a flexible circumference is made to protude from its convex curve, so that the bladder grasps and fits tightly to the circumference of the membrane, thus dividing the bladder into two equal parts.

Valentine writes of the value of Cathelin segregation, and of some of the objections to and inconveniences of ureter catheterism. Among them may be noted that catheterization demands continual practice, greatest possible skill, and most delicate manipulative tact; in addition, the bladder must have a capacity of at least 50 c. c., must not be a profusely bleeding bladder, and the ureters must be large enough to admit the smallest catheter.

Lewis mentions the advantages of ureter catheterism; in the first place it permits of treatment of the ureters by local applications where segregation does not; in the second place, by it we can differentiate between ureteral and kidney pelvis or kidney disease. He describes his own ureter catheterizing cystoscope. With this instrument the view is direct. By means of the cold lamp, which is at its distal end, one is enabled to work in an air distended bladder. The instrument is provided with a mechanism for distending the bladder with air, and, also, a separate canal for the ureter catheter.

TUBERCLE BACILLI IN URINE.—Bryson announces the following method as an aid in detecting tubercle bacilli in urine: After the patient has emptied his bladder by voluntary effort, introduce a soft rubber catheter into the bladder and preserve in a separate vessel what urine can be thus obtained. Often it is only a small amount that can be gotten, either by hypogastric pressure or by squeezing the catheter so that what urine is in the catheter will come out with it. This urine is now examined by the recognized methods for tubercle bacilli. Being the residual and the sediment in the bladder, it will contain many more bacilli than the urine passed by the patient voluntarily.

TESTICLE.—Scudder reports eight cases of malignant orchidectomy in five of which the men remained well for several years afterward.

Maclaure attempts to improve the nutrition and physiologic action of ectopic testicle by pulling it down and grafting it upon the healthy testicle without severing the cord.

STRICTURE OF THE URETHRA.—Greene emphasizes the fact that by careful treatment of chronic urethritis the formation of stricture may be prevented, that strictures are best treated by dilatation, where possible, and that cutting operations should be done only when required by certain conditions and not with the idea of obtaining better results than by dilatation.

Lydston concludes that the reason for the recontraction of certain strictures after much energy has been spent in cutting and keeping them open is due to a certain personal equation, or idiosyncrasy, in which the patient has the tendency to fibrohyaline tissue growth.

Cole publishes a case of double penis, and Duhot a case of double urethra.

ALBUMEN.—Fuhs' test solution consists of equal parts of glycerine and carbolic acid. Mix well together, by shaking and stirring, equal parts of the urine to be tested and the test solution. If the resultant fluid is clear the urine is free from albumen; if turbid, the urine is albuminous.

Huger says there are two classes of cyclic albuminuria: those few which develop a continuous albuminuria, and the vast majority which get well; and that casts found after a very careful examination in a large percentage of cases do not make the prognosis so serious as it is generally supposed.

Aschoff from his investigations concludes that the albumen in nephritic urine is derived from the blood and is different from the specific kidney albumens or that derived from the kidney epithelia.

Sharp suggests that section of the vasa deferentia is the rational means of eradicating from our midst the progeny of a most dangerous and hurtful class of criminals.

PHLORIDZIN TEST—CRYOSCOPY.—Watson doubts the claim made that the separation of sugar from phloridzin takes place in the epithelial structure of the glomeruli and tubules of the renal cortex and in no other part of the kidney.

Methylene blue tests only the renal permeability and not the power of the epithelia to excrete and chemically change a substance. In eleven out of seventy of Watson's cases the phloridzin test apparently furnished unreliable indications. This shows it to be too variable to incline one to urge its adoption in preference to former methods of urinary analysis for estimating the functional capacity of the kidneys.

Bailey says that we must carefully distinguish renal insufficiency from renal permeability. Diminution of permeability to methylene blue does not prove a renal lesion. Nesti regards the methylene blue test for the functioning power of the kidney as absolutely of no value. Bailey concludes that cryoscopy in renal disease would appear to be of the greatest value and a great aid to the surgeon.

GONORRHEA.—Barnes and Hille present a new combination of proteid silver argyrol, which they claim contains 30 per cent. of silver and does not cause any irritation to the urethra even in 5 per cent. solution. Christian confirms this statement, and that it also has great penetrating power for the mucous membrane, and reports thirty-eight cases of gonorrhea that were cured in from two to four weeks. Rucker claims special advantages from treating disease of the urethra by packing it with gauze saturated in a combination of

R Iodoform	gr. xev
Balsam Peru	3 iv
Castor oil	q. s. ad 3 iv

Bartrina uses instillations of adrenaline for differentiating kidney hemorrhage from bladder hemorrhage. If the hemorrhage is from the bladder, adrenaline stops it; whereas, if it is from the kidney, it has no effect upon it. But it is in stricture especially that the drug is most useful. Instillation of it relieves the spasm and congestion which so often prevents the passage of an instrument in this condition.

CATHETER STERILIZATION.—All gum-elastic catheters and bougies may be sterilized by boiling repeatedly and for long periods in saturated (or something less than saturated) solutions of ammoniac sulphate or sodic chlorid without essential damage (Cotton).

ENURESIS.—Some cases of enuresis are due to the fact that the child does not empty the bladder, but has residual urine due to spasm, and often as a final result it is necessary to use the catheter on these patients to get a curative effect (Harrison).

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

When one sees piled before him the great mass of the published work of the year, he cannot refrain from thinking: How much of this will prove useful, accurate, and will stand the test of further study. How much is useless, wrong, inaccurate, some of it to be thrown away at once; some of it to gain its place in literature, probably a false position, to lead others to erroneous deductions, and at last to be cast aside after years of patient labor. How many thoughts in this mass will put some one upon the glorious path of truth, will prove of benefit to humanity, will repay by its truth its progenitor for his hours of toil, work and trouble. Who knows? I certainly do not, and I feel like putting forth my hand in the same manner as one who puts his into a "grab-bag," a prize may be extracted for review, or a mere empty shell.

There is one good omen which plainly shows itself in every dermatological journal. It portends great things for the future, and that is the care which is being shown in the study of reported cases. To read the society proceedings in the *British Journal of Dermatology*, and the other foreign journals as well, is to learn how much more careful our cousins across the water are in their study of individual cases. In the reports or presentations of cases they bring forward all bacteriological and histological data possible for assistance. This is the proper method for the study of diseases of the skin, and will thus afford a more glorious harvest than any other branch of medicine. It is the constant, routine joining of the laboratory and clinic that will dissipate the mist which clings to our nomenclature, our classification and our knowledge. How many clinics on this side of the water have laboratory facilities? How many clinicians are sufficiently interested to follow their cases into the laboratory? We look to the rare and unique diseases for our incentive to investigation, while the commonest diseases of the skin are still wrapped in mystery. It is through the proper, painstaking investigation of every case, no matter how familiar its symptoms are to us, that something of real definite value can be learned.

We expect careful, minute, long-continued, wearisome work from the Germans, but in the English, an eminently empirical race, with gout and rheumatism and scrofula to always fall back upon when an etiological factor is needed, it is surprising to see how rapidly they are shaking off this "humoral" pathology and are juggling with culture tubes and microscopes and laboratory paraphernalia. They are making of their young dermatologists, bacteriologists and histopathologists, by sending them to Germany to drink in the divine incentive of a German workshop, and they have not only drank deeply and well, but they have digested it, too, and with their practical English minds great things can be expected of the English.

The year 1902 will ever be remembered for the advances made in radiotherapy; in fact, within the year has it become popular and generally practicable. The facile pens of the x-ray operators have filled volumes; the journals teem with reported cures; no one can longer doubt its efficacy and marvelous action in the cases for which it is peculiarly applicable. The pioneer work of Schiff and Freund in Germany, and Pusey in this country, startled the world; to them is due the credit of the introduction of this valuable remedy.

In the spring of 1901 the writer had a case of rodent ulcer which absolutely refused to heal, in his care. About that time Pusey's first articles appeared and I went up to Chicago to investigate the x-ray treatment. Dr. Pusey kindly showed me his cases and apparatus. My patient was immediately sent him for treatment and returned cured. Since then I have tested the efficacy of the rays upon various skin affections with a machine of my own, with satisfactory results. I have never written anything upon the subject, yet I take this opportunity to place myself upon the list of its enthusiastic advocates. No method equals it in certain cases; in rodent ulcer and lupus vulgaris it is, in a way, a specific. Of course, there are many other remedies and methods, but none of them offer the results in these two conditions equal to the rays. The mass of literature and the number of reported cures forces us to this conclusion. The Finsen method is painful, the exposures are longer, the results slower and the apparatus necessary, more expensive and cumbersome than any of the x-ray outfits.

The simultaneous use of pyrogallie acid as advised by A. Gassman may be used with radiotherapy as well as in phototherapy. C. E. Skinner says a measure frequently extremely useful in connection with x-rays, where a broken-down ulcer responds slowly to the rays, is the use of the static brush discharge. Other methods, as curettage (Taylor) or medication, can be often advantageously combined.

The use of the rays in diseases of the hair and its follicle has not been as encouraging as it at first seemed to offer, while its efficacy in patches of chronic eczema, psoriasis and some allied conditions has been marked in the hands of Ziesler, Pusey, Beebe and others. While the therapeutic effect of the x-rays may be extended to various inflammations of the skin, the chief interest here is centered in its action upon the malignant, chronic and disfiguring diseases, lupus, lupus erythematosus, rodent ulcer, epithelioma and sarcoma and allied conditions. There, of course, has been a great sameness and reiteration in the x-ray literature of the year—in the report of cases, their character, the technique of the operation, etc.—but here and there many important points have been mentioned and they may be enumerated as follows: (1) the apparatus; (2) tube; (3) quality and quantity of light; (4) dermatitis; (5) microscopical effects of the radiation.

Upon these five points, no doubt, rests the future scientific delineation, control and indications for the rays. Dr. W. B. Snow has very clearly expressed his views upon the subject of the apparatus, and, as he has had a large experience, it is well worth considering. He believes it matters little what is the source of current which energizes the tube, whether from coil or static machine, so long as it excites the character of ray applicable to the case. He, however, prefers a static machine to excite a high-vacuum tube, applicable to deep-seated conditions, as when a coil is used for this purpose it is perilous to both coil and tube. E. C. Skinner claims that a tube excited by a coil will

produce a dermatitis much quicker than the same tube lighted by a static machine, as a greater volume of rays are produced by the former, therefore it is preferable to use the latter source of energy in deep-seated conditions, as the skin does not so quickly become inflamed. It is very probable the life of a tube is longer when used in connection with a static machine.

The pioneer operators in Europe used coils, therefore the probable source of their present prestige, but from the trend of the opinion of numerous experimental operators, especially in this country, it does not seem to make a great deal of difference as to the source of energy, the principal and vital question being the tube and the quality and volume of the light.

The pioneer operators used a coil and tubes of very low vacuum, and it has been thought that a greater volume of rays are thus emitted, and therefore a dermatitis more quickly produced by a coil and low tube; but a tube of high vacuum, excited by a static machine, will produce a dermatitis as quickly if brought closer to the skin and the time of exposure lengthened (Skinner.) The self-regulating tube possesses a longer life than the other forms, and probably is more capable of better adjustment. It is recommended by all operators to not "overwork" a tube; to allow it to "rest" a few weeks will often re-establish its power.

No one has recommended any particular make of tube, each operator, probably, preferring certain makes. It is a well-known fact, cited by several operators, that of two tubes of the same make and equal resistance, one may possess great therapeutic value and the other little.

In the treatment of a case a tube must be selected applicable to that case, and, as Becleve says, the capital factor in the method of application of the x-rays is the quality of the rays used. Of course, this quality depends upon the tube, and slightly upon the source of energy. Becleve remarks in his excellent thesis that there exists a whole scale of x-rays which differ from each other by their power of penetration, on which depends their effects produced upon living tissues. Rays which penetrate very little, being quite entirely absorbed by successively encountered layers and have a deleterious action upon the skin, which may end even in its complete destruction. Rays which penetrate deeply are scarcely at all absorbed by the tissues they traverse and exercise no action, or only a slight one, upon them; they are indifferent. There exists between these two extremes a category of rays which have only mild penetrating power, which, being partly absorbed in certain pathological conditions, can provoke in the thickness of the skin a reaction leading to a curative effect. To produce at his will rays of which he knows the exact penetration is the most important point to the physician. Instruments described by Becleve are designed to determine this point. They are Villard's ampoule, the spintermeter, and the ridio-chrometer of Benoist. The rays absorbed are, therefore, the ones which produce the change in the absorbent tissue, and this effect is produced by the rays themselves and not electric waves (Scholtz). Scholtz experimented upon young pigs, and from these experiments confirms this fact. He says the effect is not only produced at the point of entrance, but also at the point of exit; therefore certain rays must be absorbed at both points, for those passing through do not affect the minor organs. The integumental changes produced by prolonged exposure to the x-rays is well outlined by Carl Beck, and pretty well conveys the general opinion upon this point. Beck divides them into three stages. Those of the

first degree are characterized by hyperemia, the cutis being infiltrated and the temperature raised. Exfoliation takes place in small scales, and there is marked itching of the skin. There is concomitant falling of the hair and retrogressive changes in the glands and nails.

The second stage is marked by the formation of blisters. Inflammatory symptoms are pronounced; the pain and tension is considerable.

The third and gravest stage is characterized by the escharotic destruction of the irradiated tissues. They show the signs of dry gangrene of brownish-black color. If the tissue exfoliates by a slow suppurative process, or if removed by surgical means, an ulcer remains which is very slow to cicatrize. These changes or the different degrees of this so-called "dermatitis" occurs in from ten to fourteen days after exposure. In some individuals this dermatitis may occur in a few exposures, whereas others may seem to possess an immunity which unfortunately often proves to be apparent only. There are certainly some who have a decided idiosyncrasy and are most readily burned. Dr. E. A. Codman has investigated the literature of x-ray burns very thoroughly, having reviewed all of the reported cases. He says that recorded cases show a minimum limit for safe exposure, but they also show a tremendous variation in the reaction of individuals to apparently the same conditions. Conditions which produce a severe lesion in one case, cause only a slight reaction in others. Kienboeck and others assert that the important factor is the degree of the vacuum of the tube—its softness or hardness, but Codman is strongly of the opinion that this element of variation lies in the susceptibility of the patient, the dryness or dampness of the skin; in his electrical resistance; in his anemia or plethora; in the acidity or alkalinity of the sweat; in his vaso-motor irritability, or in some other of the multiplicity of conditions which make a living organism different from a glass tube stimulated by a current of electricity. Codman places ten minutes at six inches distance a safe standard of exposure.

Pusey treats his patients with the greatest caution, using a low tube and short exposures, while others advocate the rapid production of a dermatitis to obtain quick therapeutic effect. As all parts are safely protected by a proper mask, the favorite material being lead foil or thin sheet lead, it probably makes little difference how rapidly the reaction is produced, unless it is for cosmetic purposes; a slower process obtains the best cosmetic result. It must be remembered though that it is not always necessary to produce the objective clinical dermatitis to produce therapeutic reaction, as cited in cases reported by Duncan, Pusey and others. These cases improved after exposures had ceased, they having never during the treatment displayed any reaction whatever. But in the majority of observed cases improvement has more rapidly advanced after the production of a marked inflammatory reaction. This dermatitis is always significant of the desired specific action of the rays upon the irradiated tissues and is histologically and clinically an inflammatory process.

Carl Beck assumes, in discussing the pathology of x-ray dermatitis, that if in chronic inflammatory processes constriction of the vessels takes place, the papillæ starve. A hair extracted after prolonged irradiation is found to have lost its structure. The skin shows thickening of the tunica intima of the small blood vessels; fibrous tissue in reticular arrangement is deposited and the tunica muscularis and tunica adventisia are affected in the same manner.

The most elaborate work of the year upon the histo-pathologic changes pro-

duced in healthy and diseased skin by the x-rays is that of W. Scholtz. He found that distinct alterations did not appear until about the sixth day after exposure, when he noticed a swelling and edema of the epithelial cells, accompanied by a clumping and shrinkage of the muscle, while vacuoles appeared here and there in the protoplasm of the cells. Many of the cells seemed to be in the process of amitotic demission. Mitoses were rarely seen. The corium was markedly edematous, the fibers swollen and stained badly. The connective tissue cells seemed to be affected in much the same way as the epithelial; also the cells of the appendages to the skin and those of the intima of the larger blood vessels. An inflammatory collection of leucocytes were observed about the vessels beneath the epidermis, and here and there between the degenerated cells. Mast cells were plentiful. Toward the center of the lesions were superficial vesicles in the stratum corneum, upon rupture of which ulceration seemed to quickly follow.

In other words, the x-rays cause upon healthy skin a cellular degeneration which is followed, after it reaches a certain stage, by an inflammatory reaction, the blood vessels become dilated, and an extravasation of serum and leucocytes supervenes, resulting by phagocytosis in the complete destruction of the degenerated cells. In irradiated lupus tissue Scholtz found about the same degeneration and inflammation.

Carl Beck thinks that the changes which take place in a malignant neoplasm under the rays is of the nature of a chronic inflammation. The nutrition of the superficial strata is disturbed, the cells starve, and, if over irradiation is continued, necrosis may result. Some sections of carcinoma show colloidal changes.

We have not heard much during the year of the "cancer parasites." The excitement and hysterical sensationalism has subsided. The cure of epithelioma by the x-rays does not strengthen the parasitic theory, as several (among them Scholtz) have demonstrated that radiation of cultures of organisms does not even retard their growth. The so-called cancer parasite has been very thoroughly discussed in the second annual "Report of the Cancer Committee" to the Surgical Department of the Harvard Medical School. The report consists of seven sections: (1) coccidium infection of rabbit's liver, by Tyzzer; (2) molluscum contagiosum, by White and Sobey; (3) culture experiments with malignant tumors, by Richardson; (4) free pathogenic torulæ (blastomycetes), by Weiss; (5) the relation of blastomycetes to cancer, by Nichols; (6) cell inclusions in cancer and in non-cancerous tissue, by Greenbough; (7) a summary, by Nichols.

From the results of the work pursued by these investigators it is concluded that:

1. The lesions produced by the coccidium oviforme is essentially a process of chronic inflammation, and is not analogous to the lesions seen in cancer.

2. The lesion seen in molluscum contagiosum is characterized by certain changes in the epidermis, is not due to the action of a protozoon, and is not analogous to cancer.

3. The so-called "blastomyces" ("saccharomyces") of Sanferlice and Plimmer are torulæ.

4. The lesions produced by these blastomyces (torulæ) are essentially nodules of peculiar granulation tissue, are not cancerous, nor in any sense true "tumors."

5. Blastomyces are *not* constantly present in human cancers.

6. The peculiar bodies seen in the protoplasm of the cancer cells are not parasites, nor the cause of the lesions, but probably are in part at least atypical stages of the process of secretion by glandular epithelium. Although the blastomyces have failed to establish their identity in the etiology of cancer, yet they still remain of great pathologic interest. Numerous additional cases are reported here and abroad, since their presence is now so easily demonstrable. Meneau discussed the subject in a very elaborate manner with a complete review of the reported cases. He concludes that the disease has been most frequent in America, especially in Chicago; men are more liable to it than women; it is most frequently met with in the middle-aged, and in several cases a family history of tuberculosis has been noted. Dr. Walker, of Chicago, reports an additional death of general infection from a blastomycosis cutis; the third, I believe, in this country.

The production of carcinoma in nevi, or the so-called nevi-carcinoma, is, according to Ravogli, a carcinoma on top of a nevus, and the name has no particular interest to him as to the origin of the growth. It is a frequent occurrence, not on account of the cells remaining in the structure of the nevus in the embryonic stage, but on account of the frequent trauma to which they are exposed, and their soft stroma easily reacts to irritation. He believes in the parasitic origin of all carcinoma, and therefore this form is likewise due to the same cause, the pigment being only a coincidence and does not produce or increase the malignancy.

The investigations of Pilger into the origin of angioma cavernosum are interesting, in that he thinks trauma causes rupture of one or more vessels of a part, and the blood as a result lies free *en masse* or as single corpuscles between widely separated connective tissue fibers; the connective tissue cells, because of increase of pressure, become converted into endothelial cells which line the cavities. Fick offers a contribution to the knowledge of soft pigmented nevi; he believes that the increase of pigment in the nevi is not the cause of the formation of the tumor; the formation of nevus cells and increase of pigment are coincident occurrences, but are not combined incidents. The cells contain pigment only when they are in proximity to melanoblasts. On the other hand, Judalwitsch believes that simultaneously with the appearance of the pigment, hyperplasia of the cells takes place. Sergeant also places great stress upon the office of pigment. Leser has noticed angiomata upon the skin of patients affected with carcinomata of various organs, and considers himself entitled to conclude that they are of diagnostic aid. Gebele, who examined twenty-one cases of carcinoma and two hundred of a number of other diseases, regards angiomata of this type as a sign of retrogressive change, most marked in old age, and of no value for purposes of diagnosis.

Crocker, of London, describes a new disease which clinically and histologically appears to correspond with the pathological condition called granuloma, and as the patches have a tendency to annular formation he gives it the name of granuloma annulare. Six cases are reported. The distribution is chiefly on the backs of hands, wrists, fingers and neck. The lesions have been noticed with warts, and some of them take on a warty appearance. Usually they begin as firm nodules or papules of slow development, which tend to form circles by

aggregation or coalescence; some of the primary lesions remind one of lichen planus.

Great interest should be attached to the case of hyphomycetic granuloma of Schamberg. He reports one case and reviews very thoroughly the literature of tumor formation caused by the trichophyton fungus. These cases, Dr. Schamberg remarks, are by no means rare; they not infrequently present a papillomatous aspect and may suggest blastomycosis, tuberculosis cutis or a malignant neoplasm. The fungus may not be found in the pus but is demonstrable in the tissues.

W. G. Erving reports six cases of actinomycosis hominis, making a hundred reported American cases. He recommends free incision with drainage, with potassium iodide internally. Curettage or complete excision is preferable, if possible.

M. P. Ravenel adds a fourth case to the literature of tuberculosis cutis hominis caused by the inoculation with bovine tuberculosis while making a post-mortem on tuberculous cows. This is of especial interest since the remarks of Koch upon this subject in London.

The question of tuberculosis of the skin cannot be mentioned without thinking of the work of three Englishmen upon lupus erythematosus, a disease often reputed to be of tuberculous origin.

W. B. Warde has published this year two exceedingly interesting studies upon lupus erythematosus, the disease which Crocker calls the "imitator." His last is a spirited and well-written dissertation upon the etiology of the disease. He believes, from a careful histological and clinical study of many cases, that lupus erythematosus is not a distinct pathological entity; that it is the exhibition of a chronic inflammatory process, associated with a pernicious edema, paralysis and dilatation of the smaller blood vessels, ending eventually in degeneration and destruction, together with granulation tissue which forms around them in the usual endeavor to repair. He thinks this lack of tone occurs in those of feeble circulation occurring in a certain class of individuals who frequently also have hypertrophic or atrophic rhinitis. The pathological changes in the skin of such individuals may be induced by many irritants or traumata. Sequeira and Balean, from a study of seventy cases, argue with Pick that the evidence does not justify one to say that the discoide form of lupus erythematosus is of tuberculous origin. They are, however, strongly inclined to believe that the more acute disseminate types of the disease has more claims to a tuberculous source, as 80 per cent. of their cases of this form was associated with a tuberculous history. That there was a severe toxemia was evidenced by the frequent occurrence of albuminuria in these cases. The limitations of the areas affected affords them strong evidence of its angio-neurotic origin. Feeble circulation and local irritation seemed also to be etiological factors. These three articles are of exceeding value for their generalization and the clinical acumen they display. The English are particularly fitted for this kind of work. These particular ideas in relation to lupus erythematosus are not exactly new, but the forcible way in which they are brought forward impress one with their practical value and common sense.

Another common-sense point which is forcing itself upon the view of dermatologists through its frequent occurrence, is the fact that bullæ in lichen planus is not such an astonishing or unlooked-for occurrence. If one has studied

sections of the disease one can readily see different degrees of serous exudate, therefore why not, once in awhile, bullæ. It was thought that the arsenic which is usually prescribed in the disease was the probable cause, but out of the seventeen cases collated by Arthur Whitfield, nine had not taken the drug. Allen believes that bullæ may at times be an essential part of the process, and he is undoubtedly correct, for serum exudate is an essential part of the process in the severer cases dependent upon vessel tone, which may go on to bullæ formation upon any additional injury.

How much apparent mystery can be cleared up in dermatology by the proper use of the microscope; the clinical use of it! To us it is exceedingly instructive to hear an observer like C. J. White, of Boston, say after a study of four hundred and eighty-five cases of nail disease, that at the present time nobody can claim sufficient knowledge to make a positive diagnosis of these conditions without the aid of the microscope, unless the skin is attacked, for the same lesions appear over and over again in almost all of the diseases. The same remarks may apply to numbers of other conditions, to seborrhea and ring-worm, to blastomycosis cutis, tuberculosis cutis, syphilis vegetanti, and in this latter group H. G. Anthony has added another condition for differentiation, dermatitis verrucosa, probably caused by the bacillus coli communis. From his description this case presented symptoms similar to a tuberculosis verrucosa cutis, in which from the pus he found pure cultures of the colon bacillus.

Albert Billet reports an interesting case of intermittent erythema scarlatini-form of malarial origin, which is very similar to a case reported by Doctor Crevelling, of this city. It is strange that more cases of diseases of the skin with this etiology do not occur. They are a frequent occurrence in the practice of the writer, who reported eighteen cases of various types of the acute urticarial erythema and neuritic groups due to the plasmodium of malaria.

Riesman and also Winfield add some additional cases. It is very probable if the search of the blood was diligently made in certain conditions with a periodicity, that the literature upon this etiological factor would markedly increase. The bacteriology of skin diseases has not been greatly enriched this year.

Schamberg's finding of the microbacillus of Sabourand in the secretion of the sebaceous glands of the nose in apparently normal skin proves nothing. It neither detracts or adds anything to the theory of Sabourand, as to its pathogenicity. So do we find staphylococci in the normal skin, but we know they cause diseases of which people die. The colon bacillus is always found in the intestines and is usually a law-abiding and honest citizen, but he has been known to become violent and kick up a local disturbance or wander to parts which violently repulse his invasion and pus is raised. Why should we ignore the microbacillus, the staphylococcus of various hues, the streptococci, and say as we wisely shake our hoary locks, frosted with ages of dermatologic lore: "Normal parasite of the skin" (meaning it can do no harm), or "secondary infection, merely, my dear sir," meaning "look further for some peculiar and unknown 'bug;' the normal inhabitants, we know all their tricks?" Yes, but the normal inhabitants are often abnormal inhabitants, and when in this state are capable of doing peculiar and as yet unheard-of things. They will bear watching.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

The past year has been so productive in literature on the above subjects, that it will be possible to touch only briefly on the most important points.

To the already large amount of literature on the accessory cavities of the nose many valuable additions have been made. The reason the post-mortem reports have shown so many diseased sinuses, of which there was no suspicion during life, is believed by Lambert Lack and others to be due to inaction of the ciliated epithelium lining these cavities, just before death, allowing accumulation of secretions which would have been discharged had the patient lived, and is not the result of a chronic suppuration.

On the radical treatment of the chronic empyemata of the maxillary antrum and the frontal sinus there has been a great deal of discussion.

The Kuhnt-Luc operation in frontal and the Caldwell-Luc's method in maxillary sinus disease have given the best results, though those operations are to be tried only when simpler methods fail.

A new instrument similar to Nitze's cystoscope has been constructed by Reichert to examine the antrum of Highmore, after having made a small opening either in the fossa canina or alveolar process.

The experiments of Claus confirm that the method of transillumination, as a diagnostic agent, is misleading and cannot be relied upon.

The correction of septal deflections has been thoroughly discussed from etiology to treatment. As for the latter, new operations as well as modifications of old ones have been brought out. Freer strongly advocates the resection of the cartilaginous and a crushing of the bony septum. This operation, which has been in practice for a number of years, but not generally followed by rhinologists owing to the difficulty of the technique, has been simplified by the invention of specially constructed knives or spuds. The advantages of this operation over the others are that it can be done under local anesthesia, under direct supervision of the eye, there is no force used and the parts are not so roughly handled. The mucous membrane being cut through on the one side only, and after the cartilage and as much of the bone as necessary removed, is brought down in its former position. The patient is able to attend to his duties in from one to three days. There is not the inconvenience of wearing nasal splints and the result is certain. The removal of the septum does not endanger the shape of the nose.

When the cartilaginous septum only is deflected, Dundas Grant advises passing a needle through the cartilage on the concave side, anterior to the deflection, which is then used as a lever to force the convex part into the concave side, and then the needle is pushed through the posterior end of the cartilage to keep it in position. Cuts are then made by Moure's shears horizontally, below the deflection, then obliquely in front, and above it. The cartilage is then manipulated to encourage overriding. The ends of the needle are covered with rubber and left *in situ* for a week when it is removed. The simplicity of the procedure recommends itself in a limited number of cases.

There are numerous reports of good results in correcting deformities of the nose by the injection of paraffin. According to the method of Gersuny, the danger of sloughing and embolism of the lungs have been overcome by allowing the melted paraffin to slightly cool in the syringe, and then injecting into the tissues in the form of a fine thread, being careful not to inject too much at a time, so as not to produce too great a tension of the parts.

Hay fever has received its usual share of attention, and some new ideas as to etiology and treatment have been advanced. Fink believes hay fever and allied affections to be due to an affection of the trigeminus, involving principally the secretory fibers in the accessory cavities of the nose, the antrum being the main seat of the trouble. Fink claims to have effected a cure in eleven cases by dusting aristol into the antrum through the natural opening in the nose. He admits the difficulty attending this procedure in some cases, but claims it can be done. Ingalls' success with the internal administration of the fluid extract of the pollen of rag weed and golden rod, as advanced by Curtis, was a relief of twelve or sixty-seven per cent. of his cases.

Nasal diphtheria in which there is only a mucopurulent discharge from the nose, closely resembling an ordinary coryza, but containing virulent diphtheria bacilli, has been proven by Neuman to occur much oftener than with membrane formation. The necessity for a bacteriological examination in suspicious cases of coryza is apparent.

The etiology of "genuine ozena" is still not understood, and the treatment in so far as an absolute cure is concerned is very unsatisfactory. Copper electrolysis has not proven to be what was first reported. Recently injections of paraffin have been made into the turbinate bodies in order to decrease the lumen of the abnormally large nasal passages, with the result that the odor and the discharge have been greatly diminished. The French writers reported what amounts to practically a cure. DeFrancesco reports two cases which had resisted all treatment but were completely cured after they had gone through an attack of erysipelas. After three years there had been no relapse.

That there is a dysmenorrhea of nasal origin there is no longer any doubt. Following the good results reported by Flies, Schiff, Holbrook and others, come those of Ephraim, who reports a relief in eighteen out of twenty-four cases by intra-nasal treatment.

A procedure that is not new but one that has been resurrected, is the dilatation of the lachrymal duct through the nose. Polyak of Budapest has invented a set of sounds with which he can dilate the duct through the nose, and also irrigate the same with his special canulas.

The advantages of this method are that the duct can be rapidly and successfully dilated, whereas from above the dilatation is never complete. The largest Bowman sound is only $1\frac{1}{2}$ mm. in diameter, while the duct has a diameter of from 3 to 4 mm. The author's largest sounds are from 3 to 4 mm. in diameter and blunt at the ends, thus the danger of making false passages is greatly lessened.

The indications for the retrograde dilatations are:

First.—In cases which are not of long standing.

Second.—In cases of nasal origin.

Third.—In cases where dilatation from above fails to relieve the stenosis, owing to the obstruction being in the lower half of the canal.

Its contraindications are :

First.—When the stenosis is known to be high up in the canal.

Second.—In advanced diseases of the lachrymal sack.

Third.—In infants and children before the age of puberty.

That adenoids are a factor in the etiology of enuresis nocturna has long been known, but this theory has recently been subjected to severe criticism. Fischer has carefully studied 716 adenoid cases and found that 106, or over fourteen per cent., had enuresis. He found that the enuresis was not due to the adenoids themselves, but to the resulting nasal obstruction, as was proven in a number of cases.

The relation which rheumatism and tonsillitis bear to each other is still a much mooted question. It is known (Thompson) that a certain number of cases of acute rheumatism are preceded by an angina, that they both may have etiological factors in common, that the tonsils may be a port of entry for the rheumatic virus. The question requires further research in differentiating the various forms of angina and discovering the true nature of rheumatism.

On the influence which the removal of enlarged tonsils has on the voice there is still a difference of opinion. Some authors maintain that their removal is beneficial in all cases, others that the voice may be greatly changed, this being especially true in the case of soprano or tenor singers. However this may be, it is generally conceded that the voice is in a better condition to be trained after the removal of the tonsils than when they are present.

Observations on singing birds have proven that the "larynx of a singer" means nothing. A well-developed larynx is no more common to a singer than to an actor or a preacher. Avellis says that song is a "creation of art" and not a production of strength, and that one can no more judge the talent of a singer from the appearance of his larynx than one can judge the talent of a violinist by looking at his hand.

The correction of chronic stenosis of the larynx caused by cicatrization has been under discussion recently. Unfortunately, no new methods have replaced the slow and tedious methods of dilatation by means of Schroetter's and A. Dyer's tubes. These have to be maintained regularly in order to make the dilatation permanent.

The results of the treatment of laryngeal cancer with the x-rays have not been very flattering. To our knowledge only one successful case has been reported. Some thirty treatments in all were required to effect a cure. The case was reported by Scheppegrell.

In operations requiring general anesthesia some operators, instead of placing the patient in a recumbent position, now operate with the patient in an upright position; chloroform or ether are administered. Patients have been kept under the influence of the anesthetic as long as an hour without any serious symptoms arising. The advantages of this position are that the operator is thus enabled to work under strict supervision of the eye and accomplish exactly what he wants under full anesthesia. For the removal of adenoids the patient need not be under complete anesthesia, owing to the short duration of the operation, and it is in this operation that the upright position has special advantages.

The question as to the value of the electric bougie in the treatment of

stricture of the eustachian tube is still undecided. The majority of the authors report that their results with it were no better than with the ordinary celluloid bougie; on the other hand, some authors report very good results.

A new factor in the etiology and pathology of a number of unexplained cases of facial paralysis has been called attention to by Reek, who found that a "non-suppurative" catarrhal otitis media of so mild a type as to be unobserved by the patient is often responsible for a number of those cases, and after proper treatment is directed toward the ear a speedy recovery will result.

Among the new devices and methods for the treatment of chronic catarrhal otitis media may be mentioned ozone, which is generated by the means of an electric current acting on a Ruhmkorff's coil to which the ozonizing tube is attached. The ozone so generated is pumped into the middle ear through a eustachian catheter. Stokes reports excellent results with this method of treatment. Another method which is not new, but one that has received a great deal of attention recently is the hot air treatment, which is applied both through the external auditory canal as well as through the eustachian tube. For the application through the former the Ferry Heater Co. have constructed a very practical instrument; for the latter several appliances have been constructed which have given satisfaction, viz., one devised by Bronner.

The ice coil which has been considered almost a sovereign remedy in aborting acute inflammation of the mastoid process has been the subject of an attack on the ground that its action is only superficial and that the inflammatory process goes on deeper down, undisturbed, while the anesthesia produced by the cold is apt to mask the symptoms and thus mislead the physician. This is, however, not borne out by clinical experience.

The radical mastoid operation is finding a wide field of application and each year its opponents are becoming more and more convinced as to its value. The percentage of cures, so far as a cessation of the discharge and the inflammatory process, is conceded as higher, owing to our more perfect methods of technique. The improvement in the hearing is not so marked as was first reported, as was recently shown in Buhe's analysis of one hundred and three cases operated upon in Schwartz's clinic. In some cases a large retroauricular opening is maintained until healing is complete, thus leaving an unsightly defect. The same have been recently very ingeniously closed by the injections of paraffin according to the Gersuny method.

That it is not always necessary to open the antrum in acute mastoiditis is shown by the results obtained at Politzer's clinic. The antrum is not to be opened if its walls appear normal, but it should be opened in all cases where there is a sudden cessation of the discharge. The healing is much more prompt when the antrum is not opened.

The value of lumbar puncture as an aid in the diagnosis of the intracranial complications of otitis media have been fairly well demonstrated. The fluid in inflammations of the cerebrum and spine and their meninges is turbid and even purulent, due to an increase of the leucocytes or an admixture of pus corpuscles and bacteria. In tubercular meningitis the fluid may be clear although containing bacilli. In complicated cerebral abscess the cerebro-spinal fluid is clear but increased.

Among the new drugs which have been found to be useful are the following: Ichthargan, a combination of ichthyol and silver containing 30 per cent.

of silver and 15 per cent. of sulphur, has much greater penetrating power than nitrate of silver and is less toxic. It is used in from 2 to 10 per cent. solutions in acute and chronic catarrhal conditions of the nasal and pharyngeal mucous membranes, and is said to be especially useful in atrophic rhinitis. Its value has been overestimated.

Menthoxol and camphoroxol contain as their active ingredient a 3 per cent. solution of peroxide of hydrogen, combined with menthol, camphor and alcohol. The hydrogen is liberated on coming in contact with the pus, leaving the menthol and camphor in solution with the alcohol. They are non-irritating and used in from 10 to 50 per cent. solutions in all suppurative conditions of the nose and ear. Camphoroxol has proved to be a very valuable remedy in chronic suppurative otitis media.

Argyrol "silver vitellin," containing 30 per cent. of silver, is very valuable and non-irritating and is used in from 10 to 50 per cent. solutions in catarrhal conditions of the nasal, pharyngeal and laryngeal mucous membranes; especially good results have been obtained in acute laryngitis.

Among the list of new books that have appeared during the year are the following: Diseases of the Ear, Nose and Throat, by Henry Gredle, M. D.; Atlas and Epitome of Otology, by Gustave Bruhl, M. D.; A Manual of Otology, by G. Bacon, M. D.; Diseases of the Ear, Nose and Throat, by C. P. Grayson, A. M., M. D.; Lehrbuch der Ohrenheilkunde, by Prof. Dr. L. Jacobson and Dr. L. Blau; a new fourth addition of a Text-Book of the Diseases of the Ear, by Prof. Dr. Adam Politzer, and a new seventh addition of Die Krankheiten des Ohres und deren Behandlung, by Arthur Hartmann.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

REFRACTION.—"Kinescopy" is the name given by Holth to a new method of determining the refraction objectively. It consists, essentially, of the observation of the motion of fixed objects when seen through a narrow fissure in a moving disk. In hyperopia, the object seen is given an apparent motion contrary to that of the disk; whereas the opposite obtains in myopia. The error of refraction is determined by the lens required to make the object seem motionless. The amplitude and rapidity of the movements are directly proportional to the amount of ametropia. Priestly-Smith affirms that every myopia should be suspected of a tendency to increase until time has proved the contrary. The disease is likely to be progressive (1) in myopia in very young patients; (2) in high-grade myopia; (3) after general disease; (4) with excessive close work. On the other hand, hereditary myopia is often benign.

Wettendorfer has found in twenty-seven eyes of fourteen myopes concentric zonular defects of the visual field for white and red, which he ascribes to stretching of the choroid and retina at points where they are most firmly attached, viz., at the entrance of the posterior ciliary arteries, optic nerve, etc.

The operation for removal of the crystalline lens in high-grade myopia continues in favor. Operation is contraindicated (1) in M. less than 15 D.; (2) in macular lesions. Truc recommends aspiration-suction in the extraction of the lens after one or more preliminary dissections.

In nine hundred and forty cases of perverse astigmatism, Steiger has found visual acuity considerably reduced, even when the astigmatism was of low degree. In unilateral astigmatism, vision was more reduced and less capable of correction by glasses than in bilateral astigmatism of the same degree.

STRABISMUS.—Worth believes that the potential factor in the cause of strabismus is the defective or non-development of the fusion-sense, and considers the exercise of this faculty of the first importance. According to Javal, amblyopia ex anopsia is never found in a patient under six years; an opinion concurred in by Derby, who insists that every effort should be made to develop central vision in the amblyopic eye. He advocates orthoptic treatment before and after operation. Secondary insufficiency of divergence accounts, in Wootten's opinion, for the persistence of squint in many cases. He advocates advancement of both externi to the corneal margin without tenotomy of the interni.

DISEASES OF THE LIDS.—Terson regards palpebral horns, although of benign character, as probably related to other tumors, more especially carcinoma. In an extensive epithelioma of the lid, which had destroyed the eyeball and extended across the bridge of the nose, Sweet obtained great improvement by thirty-six exposures to the x-ray. He uses a low vacuum tube from six to ten inches from the diseased tissue, each *seance* lasting five to ten minutes. Holsa found xerosis bacillus in twelve cases of chalazion, and believes we should no longer regard these tumors as retention cysts. He assumed that this micro-organism, which is normally resident in the conjunctival sack, entered the tissues by rubbing. The very rare filiform anchyloblepharon was observed by Oblath in an eight-day-old child. He regards the condition as a partial persistence of the physiologic band uniting the lids during intra-uterine life.

CONJUNCTIVA.—Monphous observed a delicate vascular triangular membrane, the base situated in the upper cul-de-sac, the apex adherent to the mucous membrane and tarsal cartilage of the upper lid. A similar, smaller growth obtained in the fellow eye. The growths were regarded as *palpebral* pterygia. Periodic acute exacerbations of trachoma in Egypt were found by Morax to be due to mixed infections with the Koch-Weeks bacillus, and occasionally the gonococcus. Kymowitsch believes in the identity of the influenza bacillus and the Koch-Weeks bacillus, and regards acute contagious conjunctivitis as an "influenza of the eye."

LACRIMAL DISEASES.—Acute dacryocystitis in trachoma is explained by Raehlmann as the result of the entrance of pyogenic material into the submucosa, which has been exposed by the ulceration and sloughing of true trachoma follicles occurring in the sack. Extirpation is recommended.

Antonelli prefers gelatine protargol sounds to protargol injections after dilating strictures of the nasal duct. Augieras has found that excision of the caruncle is often efficacious in epiphora persisting after free opening of the lacrimal passages. Probing the lacrimal duct from the nose is advocated by Polyak: (1) in recent disease; (2) where the affection is due to a nasal trouble that has healed; (3) where the stenosis lies in the lower part of the canal. It is very

painful and is inapplicable in children on account of the small size of the nasal passages.

DISEASES OF THE CORNEA.—The occurrence of typical interstitial keratitis in the third generation—*i. e.*, in the offspring of an hereditary syphilitic—has been noted by Strzeminiski, who gives an outline of the symptomatology of ocular syphilis in the third generation. Masugi finds that muriate of cocain retards healing of corneal wounds by disturbing karyokinesis of the epithelial cells, and possibly, also, by a special toxic effect. Perrin advocates antiseptic injections into the anterior chamber in hypopyon keratitis, and gives preference to cyanide of mercury 1:5000. In extensive suppurative keratitis complicated by dacryocystitis Buller ligated both canaliculi and obtained an excellent result. An essential necrosis implicating dense corneal scars and staphylomata has been called by Fuchs "atheromatous ulcer of the cornea." Panophthalmitis may ensue as the result of the sequestrum gaining entrance into the interior of the eye. Terrien notes that the pure form of congenital opacity of the cornea is due to intra-uterine inflammation incident to nutritional disturbance of the placental circulation.

AFFECTIONS OF THE LENS.—For the purpose of artificially ripening cataract Alessandro makes five to ten punctures of the anterior lens capsule with a knife-needle introduced at the outer third of the corneal margin.

DISEASES OF THE IRIS.—Terrien describes four forms of cysts of the iris: (1) serous (traumatic and idiopathic); (2) pearly (traumatic in origin); (3) entozoal (cysticercus) and (4) dermoid. Tuberculosis of the iris and cornea was cured by Koster by injecting air into the anterior chamber after evacuation of its contents.

DISEASES OF THE CHOROID.—Fuchs has noted detachment of the choroid after cataract extraction and iridectomy. It is to be suspected if the anterior chamber becomes shallow after having been re-established. A rigid sclera and the character of the section are factors in its production. In tuberculosis of the uveal tract Fromaget advises amputation of the anterior segment of the eyeball and evisceration in preference to enucleation. Bruns concludes that the so-called keratitis punctata is merely a symptom of disease of any portion of the uveal tract, probably most often of acute exudative choroiditis.

SYMPATHETIC OPHTHALMIA.—Gasparrini's experiments lead him to the conclusion that sympathetic inflammation is due to toxins, thus agreeing with the view advanced by Selenowsky in 1900.

GLAUCOMA.—Uribe-Troncoso in experimenting on rabbits found that intraocular tension increased with blood pressure, and also with increased barometric pressure. In nineteen cases of glaucoma he found the density of the aqueous humor and the amount of mineral matter higher than normal, and believes that alteration in the quality of the intraocular fluids is the important factor in the production of the hypertension in glaucoma.

Stolting explains the loss of corneal luster frequently observed in glaucoma by the presence of lymph in the corneal lamellæ, due to the displacement of the pectinate ligament. As to the value of excision of the superior cervical ganglion, the following conclusions of Weeks express the position of the more conservative practitioners: (1) sympathectomy is of no value and may be harmful in acute glaucoma; (2) in hemorrhagic glaucoma it may be of some value and should be

tried; (3) in subacute and simple chronic glaucoma iridectomy and sclerotomy should first be employed; if these fail, sympathectomy may be resorted to.

DISEASES OF THE RETINA.—Thompson discusses the actual and theoretically possible causes of obstruction in the central artery of the retina: (1) embolism; (2) hemorrhage into the optic nerve sheathe; (3) primary thrombosis; (4) spasm of the muscular walls of the artery. In an examination of three hundred and eighty-three deaf-mutes, Mulder found in eleven typical signs of retinitis pigmentosa. He regards deafness, deaf-mutism, retinitis pigmentosa and idiocy as symptoms of one and the same disease of the central nervous system. In eight cases of retinal detachment Gallus employed the method of Doe—cauterization of the sclera over the point of detachment and subconjunctival injections of salt solution. All cases due to primary subretinal exudate became reattached. Although some cases relapsed, vision was generally improved. Helborn observed partial detachment of the retina in both eyes of a I-para in the eighth month of pregnancy, in the course of an albuminuric neuro-retinitis. After artificial delivery, the neuro-retinitis subsided and the retina became reattached with return of normal vision. The so-called "hole in the macula" was noted by Byers three years subsequent to a blow on the eyebrow.

DISEASES OF THE OPTIC NERVE.—Hawthorn believes that optic neuritis occurring in the course of chlorosis is due to intracranial thrombosis. Mohr reports two cases of optic neuritis caused by iodoform poisoning. In an analysis of eighty-eight cases of cerebral and cerebellar tumors Singer concludes that optic neuritis is frequent in patients under forty, and becomes increasingly rarer after that age.

INJURIES.—In infected perforating wounds of the eyeball, Schirmer touches the edges of the wound with the galvano-cautery, uses subconjunctival injections of sublimate and salt solutions, and introduces an iodoform rod into the anterior chamber. He advocates the thorough and prolonged exhibition of mercury, preferably by inunction and intramuscular injections. Wokenius has had great success in infected perforating wounds of the sclera, with powdered iodoform introduced into the vitreous. In two cases of infected injury going on to panophthalmitis Roselen passed a glowing platinum point into the vitreous in different directions for three to four seconds. One eye required subsequent enucleation, the other, while sightless, retained its form.

Schmidt reports the cure of beginning panophthalmitis following extraction by the introduction of an iodoform disk into the anterior chamber.

Brandenburg notes the high percentage of eyes in country dwellers which are lost through the infection of a superficial corneal wound from the lacrimal sack.

OPERATIONS.—Parinaud and Roche offer a modification of Krœnlein's operation for tumors of the orbit in which the cutaneous incision forms an angle with its apex pointing upward. The following advantages are claimed: (1) More room; (2) lessened danger of infection, owing to distance of wound from angles of the eyelids; (3) no scarring or distortion of eyelids. Promiscuous enucleation is condemned De Wecker, who has resorted to tattooing of the sightless stump with good cosmetic results. Conjunctival, Thiersch and epithelial lip flaps have been utilized by Gifford to cover the sensitive cornea of sightless stumps, thus permitting the wearing of a shell-eye. In acute glaucoma with total abolition of the anterior chamber and disappearance of the iris under

the scleral edge of the cornea Burnett approaches the anterior chamber by successive strokes of a Graefe knife, following the curve of the corneal base. The wound gives way at some point, followed by a gush of aqueous and sometimes by prolapse of the iris. The section is completed by a bulb-pointed triangular knife. In a case of unilateral exophthalmos with optic neuritis Rollet made an "exploratory orbitomy" by forcing the superior maxilla downward. The entire orbit was thus exposed without dividing the ocular muscles. Lagrange reports ten successes in eleven attempts to transplant a rabbit's eye into Tenon's capsule.

Wokenius describes Kuhnt's subconjunctival discission of secondary cataract: the knife is entered three to four m. m. from the limbus corneæ and passed through the sclera into the periphery of the anterior chamber. It is then advanced into the capsular membrane, keeping parallel to the plane of the iris, and the membrane divided by a sawing motion. The advantages claimed are (1) slight reaction; (2) minimum danger of infection; (3) avoidance of wounding the vitreous.

THERAPY.—Darier recommends dionin in two per cent. solution as an anti-septic, analgesic and lymphagogue application to the conjunctiva. It hastens absorption of pupillary exudates and favors mydriasis. It is especially effective in quieting pain where local anesthetics are of no avail. Electrolysis is recommended by Levisseur as an effective treatment in xanthoma of the eyelids, and by Lor in the treatment of pannus. Protargol in twenty per cent. solution is preferred by Lewitt as a prophylactic against blennorrhea neonatorum. Jackson recommends trikresol 1:1000 as a basis for collyria and harmless antiseptic. Jequiritol, according to Hummelsheim, possesses all the properties of jequirity, and is more accurate in dosage. Kirchner finds that aspirin controls pain in acute iritis and iridocyclitic.

Hoppe suggests that soft gelatin tubes containing lanolin and holocain be kept in workshops where men are exposed to lime burns. When the accident happens, the small end of the tube is thrust under the upper lid and the contents squeezed out. Lime opacities of the cornea have been found by Guillery to be due to albuminate of calcium, which is soluble in chloride of ammonium. He recommends eye-baths daily of a two per cent. solution. A new organic silver salt—silver vitelline—contains thirty per cent. silver, twice the quantity of any other organic silver compound. Hetol solution (one per cent.) in subconjunctival injections exceeded Pflueger's expectations in herpes corneæ, deep ulcer of the cornea and uveitis. In serpiginous ulcer of the cornea due to the pneumococcus, Roehmer recommends pneumococcal serum. Attanasio has found Marmorek's antistreptococcal serum of marvelous efficacy in the following conditions: Orbital periostitis, ocular phlegmon, phlegmonous dacryocystitis, acute trachoma, muco-purulent, purulent and pseudo-membranous conjunctivitis, hypopyon keratitis, traumatic iridocyclitic, post-operative infections in cataract extractions.

PHYSIOLOGY.—Laus found that, contrary to the general belief, desiccation of the corneal epithelium is not the cause of winking which is brought about by cooling of the surface, and secondarily by light irritation. Gatti's researches on the living frog show that 20° C., which is the optimum for the effective action of the heart, is likewise the optimum for the production of visual purple. Herzfeld observed a case where, despite paralysis of both facial nerves, relaxation of the tonus of the smooth muscle of Mueller and the

smooth muscle fibers of Tenon's capsule permitted, during sleep, complete closure of the palpebral fissures. Spiller's examination of the brain in an idiot, aged twenty-two, with complete absence of the visual system, led him to the following conclusions: (1) The chief "primary" optic center is the external geniculate body; (2) the pulvinar of the optic thalamus is also an important "primary" optic center; (3) the anterior colliculus of the quadrigeminal body in man has an unimportant relation to vision; (4) the subthalmic body, the habenula, the internal geniculate body probably are not part of the visual system; (5) the cortex of the calcarine fissure may contain nearly the normal number of cell bodies, even though the visual system may be undeveloped; (6) the nerves to the ocular muscles and their nuclei may be developed even though the visual system is absent; (7) congenital spastic paraplegia may be the result of deficient formation as regards number or size of the neurones of the central motor system, even though such a deficiency may be difficult to detect by the microscope.

PATHOLOGY.—Birch-Hirschfeld, in a study of the pathogenesis of alcohol amblyopia, finds marked uniform changes in the ganglion cell layer of the retina, which probably indicates a direct influence of the poison on these cells. Later the optic nerve shows degenerated fibers, the degeneration being independent of the changes in the retina.

EYE AND NOSE.—According to Lapersonne, oculo-orbital complications occur in twenty per cent of inflammations of the nasal sinuses.

THE EYE IN GENERAL DISEASE.—Lawford, in discussing the relation of gonorrhea to disease of the eye (excluding purulent ophthalmia), says that gonococci are never found in the eyeball. Ocular affections in conjunction with gonorrhea are metastatic conjunctivitis, scleritis and episcleritis, iritis, irido-cyclitis and neuro-retinitis. Iritis may occur without arthritis or endocarditis. In forty per cent gastric cancers Pick has noted greyish plaques and hemorrhages in the retina and edema of the optic nerve head. Toxemia is assigned as the cause. Jocqs reports three cases of hemianopic contraction of the fields in tabetics (instead of the usual concentric contraction). In such cases vision remains good until the involvement of the fixation point, when loss is rapid.

In myasthenia gravis Gowers notes varying involvement of the laterally acting ocular muscles at different times. Especially noteworthy is the partial escape of the downward acting muscles. There is ptosis and weakness of the orbicularis palpebrarum; the light reflex is perfect. Trousseau believes that *bilateral* exophthalmos is no longer indispensable to the diagnosis of Basedow's disease. In twelve cases of bubonic plague Maynard observed ophthalmic complications as follows: hazy and sloughing cornea, iritis and scleral staphyloma.

Puech notes an arthritis affecting especially the knee-joints in the interstitial keratitis of hereditary syphilis, and believes this symptom should be added to the triad of Hutchinson. Kalt affirms that iritis, keratitis and chorio-retinitis, in addition to the classical type of neurokeratitis, may supervene in lesions of the Gasserian ganglion.

Permanent myopia developing in diabetes is due, according to Van der Burgh, to swelling of the lens, thus increasing the curvature of its surfaces. Unequal amounts of sugar in the aqueous and lens or vitreous is thought to account for transient myopia during the glycosuric stage of diabetes.

In neurasthenia and hysteria, Koenigshoefer has noted inability steadily to

fix an object at any distance. There is diminution in the range of binocular accommodation, homonymous diplopia for distant objects, and crossed diplopia when the object is brought very near. He calls the condition "convergence rigidity." Greef emphasizes the importance of the tube-shaped (rohrnformiges) visual field in the diagnosis of hysteria.

MISCELLANEOUS.—Trantes effected a cure in from twenty-four to forty-eight hours in forty cases of essential hemeralopia by feeding with boiled or roasted liver. From six hundred to eight hundred grams were given. Lederer, in discussing traumatic exophthalmos, believes that the retraction of the globe is due to cicatricial contraction consequent upon hemorrhage and tearing of the orbital tissues.

Fromaget reports the second case on record of fibrochondroma of the orbit. It was removed through the upper cul-de-sac with preservation of the globe: $V = \frac{2}{3}$. Shortly after being photographed by magnesium flash a patient of Graefe's developed bilateral mydriasis, paralysis of the left abducens and lens changes. The preparation, by explosion, developed oxide and dioxide of chlorine both of which are very poisonous.

Rascalon relates a case of pulsating exophthalmos cured by prolonged compression of the common carotid artery.

Posey calls attention to transient monocular blindness, due in all probability to spasm of the retinal arteries. In general the prognosis is good, though some cases have finally become permanently blind. The new method of Wingen to test the illumination in schools is described by Cohn. Aristo-paper is placed on all the desks of the room for one hour and compared with a paper placed on a desk which is known to be adequately illuminated (as tested by the photometer). The papers are then "fixed" and serve as a permanent record of the illumination of each desk. Wuerdemann brings forward the fact that the physiological and earning limitations of central acuteness of vision are not identical, and recommends that estimation of ocular damage should be made with this difference in view:

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EDITORIAL COMMENT.

MEDICAL PROGRESS NUMBER.

In attempting to chronicle the most noteworthy advances of the year just closed, our efforts have been specially directed to the needs of the busy practitioner—the doctor whose time is so engrossed by his professional duties that he is utterly unable to keep up with medical progress as noted in our abstracts from month to month. Here he finds the leading investigations spread out before him, and in the midst of his busy life can acquaint himself with the gist of the year's offerings, no matter what be the special field in which he is interested. We shall feel well repaid for our labor on the special progress number if we have brought to the notice of a fair number of the profession a knowledge of the advances which otherwise would not have been theirs.

An effort of this kind is unusual in medical journalism. It would have been far easier to print a number of original articles than to complete a review of the contributions offered during the past year, and this departure is only possible in a journal like the INTERSTATE, which supplies its staff editors, each of whom is in absolute control of his department, with all the literature appertaining to the various specialties published in this country and abroad.

We do not claim to have touched upon all that was new in 1902, nor to have excluded all that is of little value. It is not possible in the space at our command to review everything, and, besides, the inclination is always strong to give prominence to that which interests the collaborator most, but each has tried to give an impartial resume of what seemed to him the most valuable productions of the past twelve months.

We believe a complete resume of the year's work, when presented in a concise form, is of sufficient importance to justify us in making this departure a

permanent feature of our publication, and in future our January number will be devoted to this work.

A CLINICAL FIASCO.

Whenever there is a slight stagnation in the progress of medical science, some enterprising and sincere benefactor of the human race disturbs the calm by a tumultuous explosion of energy. Unfortunately, it is intensified when the inventive genius of the newspapers is called into play. It has recently been announced, ostensibly through proper channels, that lemon juice dropped upon a culture of typhoid bacilli, in a test-tube, succeeded in killing the micro-organisms within a comparatively brief time. It is far from our intention to refute this statement in the slightest degree, neither do we doubt but that the bacilli were killed in the test-tube. But, unfortunately, a great part of the public has been made to believe that the juice of the lemon really possesses such bactericidal properties as to cure enteric fever. If all experiments that were successfully performed outside of the human body could be successfully applied within the human body, there would be many diseases susceptible of more speedy and thorough alleviation. It is a common sight in drug stores to see test-tubes of food which is claimed to have been digested by this or that drug, yet such results are far from being obtained after the internal administration of the remedy. But in the case of lemon juice as to the treatment of typhoid fever, there are even more scientific objections. It is so well known to every student of medicine that the bacillus of enteric fever does not exclusively affect the alimentary tract, that it is hardly worth mentioning, but it is necessary to remark, in order to show how purely local the effect of lemon juice would be. In the first place, considering the period of incubation of typhoid fever, the disease would be so disseminated throughout the organism that lemon juice could hardly reach it in time to be effective. The typhoid bacilli being not only located in and about the ulcers in the intestines, but also in the blood, spleen and bone marrow, it is obvious through what channels and with what rapidity the medicament would have to be transmitted. But similar experiments have been made before, and even in the case of typhoid fever. There are those who still would have us believe that the disease is curable by the administration of intestinal antiseptics, just as there are those who still teach that intestinal hemorrhage can be controlled by the administration of hemostatic drugs. The latter contention can only be proved if it can be shown that a certain kind of a drug administered by the mouth will exactly come in contact with the bleeding vessel in the intestine, and as yet we know of no drug which can be directed with such accuracy. Likewise in the case of lemon juice; unless it can be shown that it can reach the foci of infection, remain long enough in contact with them to kill all of the bacilli, and that, furthermore, it can be absorbed into the circulation unchanged and reach each and every focus of infection throughout the human organism, the result of these experiments performed outside of the human body cannot be represented either as scientific facts or the slightest advancement in the treatment of disease. Yet we do not underestimate the sincerity of the experimenter nor his intentions to contribute to the welfare of mankind and the alleviation of human suffering. He who has experimented with a drug and found it wanting, has not labored in vain.

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NO. 2.

ORIGINAL ARTICLES.

EXPERIMENTS WITH THE FORMALIN TREATMENT FOR STREPTOCOCCUS INFECTION IN RABBITS.

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Since the new formalin treatment for streptococcus infection has received so much attention in the past few weeks, as the result of the successful issue of a case of streptococcus septicemia, recorded by Dr. Barrows, of New York, and numerous efforts on the part of physicians throughout the United States to produce similar results have been made with doubtful effect, we felt it necessary to determine the effect of the proposed treatment upon animals, hence our efforts have been directed in these channels to verify the efficacy of formalin in different dilutions against streptococcus infection. We propose to ascertain the effect of formalin upon the blood and metabolism of normal animals, also upon those in which there is a streptococcus infection.

We have also tried and shall continue to note the comparative value of normal saline solution and sterilized water as treatment in cases of streptococcus infection. It is our belief that a 1-5000 dilution of formalin in water is not sufficiently strong to have any specific effect upon micro-organisms in the animal economy. If any bacteriocidal effect may be expected from formalin solutions, the strength to be employed, it would seem, must be increased. We have found in our experiments upon normal rabbits that a formalin dilution of 1-500 is well borne when given in doses proportional to a litre in man; and as a result of this observation, we have in our later experiments upon streptococcus infection used a dilution of 1-2000 instead of 1-5000, as was originally proposed, as we think this is a safe strength to work with. The effect of this may be seen by examining Chart No. 5.

Thus far, we have had two apparent recoveries as a result of this treatment. One rabbit of this series (Chart No. 5) received three successive intravenous injections of a 1-2000 dilution. This rabbit, however, died on the eleventh day, when according to all evidences noticeable by temperature records and observations, he had become convalescent. The red rabbit of this series was used as a control. While the result in this series appears slightly favorable, yet by comparing it with the normal saline vs. streptococcus series (Chart No. 8) it does not show much improvement over the normal saline treatment, as in this series (Chart

No. 8) the green rabbit is still alive. The red rabbit died the day after the saline solution was employed. The yellow rabbit whose crisis of temperature was 106.2 was reduced to 103.8 the following morning after the first intravenous injections of saline, and then entered a state of collapse, during which time he was given a second injection of normal saline, but died in the next few hours. The blue rabbit of this series was not injected with normal saline, for the reason that she seemed to possess immunity, and was never sufficiently septic to warrant treatment. We gave her a second dose of streptococcus culture which produced only a temporary rise of temperature. This rabbit without any treatment has since become normal.

The temperature produced in these rabbits were due to streptococcus infection, as was shown by pure cultures obtained from the blood. Blood cultures made on the eleventh day from the formalin vs. streptococcus series showed that the number of streptococci in the circulation was greatly reduced, as the plants from a loopful of blood upon blood serum media at this time, only showed ten colonies in one tube and thirteen in another, whereas in our first plants we obtained a beautiful filmy growth, as is obtained when transplanting a pure culture.

Our experiments with formalin dilutions alone in normal rabbits have thus far revealed nothing worthy of note, as all that can be said as the result of observation is, that their temperatures fluctuate but slightly, and the rabbits seem perfectly lively and unaffected. The dilutions which were employed varied in their strengths from 1-5000 to 1-500, all receiving normal doses. It is our intention to increase the strengths of these solutions to one per cent., as we know formalin to be an effective germicide in stronger dilutions than have thus far been employed. In this way we expect to find the strength best tolerated and the lethal dose. In this series we are making observations of the effect of formalin upon the blood, as we know it has hemolytic properties. Cushny in his work on pharmacology, states that formalin reduces hemaglobin to hematin, and is then eliminated by the kidneys. In our test tube experiments we find that formalin splits hemaglobin into meta-hemaglobin and hematin. This action is slow, however, and only occurs in the stronger solutions, as all that could be noticed from the effect of the weaker dilutions of formalin was the condition known as laking. In our future observations upon the blood of these formalin rabbits, we shall direct our attention more particularly to its effect upon the cellular elements.

SUMMARY.

I. Thus far we have injected thirteen rabbits with formalin ranging in strengths from 1-5000 to 1-500, and with the exception of three, which were killed for examination, and one that died from causes other than those produced by formalin, the other nine are living and apparently in a normal condition.

II. A series consisting of four streptococcus rabbits have been treated with normal saline solution, two have died and one is apparently passing into a state of recovery, though not in the best condition at this time. The fourth of this series proving immune was not treated.

III. Two streptococcus rabbits were treated with 1-5000 dilution of formalin in normal saline solution; one died the day after treatment, and the other the third day after. Two rabbits of this series were allowed to go untreated and died

on the second day, or about thirty-six hours after inoculation, thus showing the culture which is being used to be intensely virulent.

IV. Three streptococcus rabbits were treated with a 1-2000 dilution of formalin in water. Two recovered and one died after three intravenous injections of the above dilution. This treatment seemed to control the infection somewhat, as the temperature was greatly reduced and life prolonged until the eleventh day. The fourth rabbit of this series, which was allowed to go as a control, died in thirty-six hours.

By examining Chart No. 4, the disinfecting action of formalin in its different dilutions against streptococcus can be seen. In our final report we shall have this chart complete and show its disinfecting action in all the strengths from 1 per cent. to 1-5000, also the effect of distilled water and normal saline solution upon the vitality of this organism.

Up to this date our experiments have necessarily been limited, hence without attempting to draw conclusions, we simply offer this report to those who are interested in this treatment, with the hope that they may profit by our experience.

CHART No. 2.

STREPTOCOCCUS SERIES NO. 1.

1-5000 Dilution of Formalin in Normal Saline Solution vs. Streptococcus Septicemia.

STARTED JANUARY 23, 1903.	YELLOW.	RED.	BLUE.	GREEN.
Weight	1900 Grams.	2150 Grams.	1750 Grams.	1575 Grams.
Sex	Male.	Female.	Female.	Female.
Dose of streptococcus emulsion inoculated	1 c.c.	1 c.c.	1 c.c.	1 c.c.
Method of inoculation	Intrav.	Intrav.	Intrav.	Intrav.
Temperature before inoculation	101.8	103.6	102.8	102.6
1st day	a. m. 105.0 p. m. 105.4	106.4 105.9	104.9 104.9	105.6 105.8
Formalin employed		15 c.c. of a 1-5000 in n/saline.		13 c.c. of a 1-5000 in n/saline.
2nd day	a. m. DEAD. p. m.	98.2 DEAD.	DEAD.	105.5 104.3
3rd day	a. m. p. m.			101.4= 9 a. m. 99.6=11 a. m. 98.6= 5 p. m. Died= 7 p. m.
Autopsy weight	1700 Grams.	1764 Grams.	1564 Grams.	1349 Grams.
Actual loss of weight	200 Grams.	386 Grams.	186 Grams.	226 Grams.

The emulsion used to inoculate these rabbits was made by taking four loopfuls of a 24-hour blood serum culture of streptococcus pyogenes and mixing thoroughly with 4 c.c. of normal saline solution.

CHART No. 5.

STREPTOCOCCUS SERIES No. 2.

1-2000 Aqueous Formalin Dilution vs. Streptococcus Septicemia.

STARTED JANUARY 26, 1903.		YELLOW.	RED.	BLUE.	GREEN.
Weight		1940 Grams.	2140 Grams.	2000 Grams.	1850 Grams.
Sex		Male.	Female.	Male.	Female.
Emulsion of streptococcus inoculated....		Intrav.	Intrav.	Intrav.	Intrav.
Temperature before inoculation.....		102.6	103.0	102.0	103.2
1st day	a. m.	103.6	105.4	102.8	105.2
	p. m.	103.3	104.9	104.1	106.1
2nd day.....	a. m.	107.0	DEAD.	103.0	105.8
	p. m.	105.9		103.2	106.6
1st formalin injection.....		33 c.c. 1-2000 Intrav.	Control.	40 c.c. 1-2000 Intrav.	31 c.c. 1-2000 Intrav.
	a. m.	104.6		102.6	104.4
3rd day.....	p. m.	104.9		101.3	102.9
	a. m.	104.6		101.4	105.8
4th day	p. m.	105.2		100.4	107.5
2nd formalin injection.....		33 c.c. 1-2000 Intrav.			31 c.c. 1-2000 Intrav.
	a. m.	104.0		100.6	105.8
5th day	p. m.	105.4		101.4	104.0
	a. m.	106.4		102.5	102.8
6th day	p. m.	104.0		101.8	102.5
3rd formalin injection.....		33 c.c. 1-2000 Intrav.			
	a. m.	102.6		103.4	101.0
7th day	p. m.	104.4		102.4	101.7
	a. m.	103.4		103.3	102.6
8th day	p. m.	103.2		102.6	101.8
	a. m.	101.9		102.9	102.8
9th day	p. m.	99.5		100.0	102.8
	a. m.	101.8		101.8	102.0
10th day	p. m.	101.6		101.4	102.8
	a. m.			101.9	101.7
11th day	p. m.	DEAD.		101.4	102.6
	a. m.			101.4	102.8
12th day	p. m.			101.4	102.8
		3 injections of formalin.	Control.	1 injection of formalin.	2 injections of formalin.

RECORD DISCONTINUED.

CHART No. 8.

STREPTOCOCCUS SERIES No. 3.

Normal Saline Solution vs. Streptococcus Septicemia.

STARTED JANUARY 30, 1903.	YELLOW.	RED.	BLUE.	GREEN.
Weight	2215 Grams.	2165 Grams.	1710 Grams.	2116 Grams.
Sex	Male.	Male.	Female.	Male.
Emulsion of streptococci inoculated	Intrav.	Intrav.	Intrav.	Intrav.
Temperature before inoculation	103.1	103.0	102.8	102.6
Temperature four hours after inoculation with streptococcus	102.7	101.1	102.0	103.8
1st day a. m.	106.2	105.9	103.4	104.4
..... p. m.	106.2	105.7	103.0	104.5
Normal saline employed.....	39 c.c. Intrav.	38 c.c. Intrav.		
2d day a. m.	103.8	101.6	102.3	104.8
..... p. m.	96.8	DEAD.	102.4	106.5=4 p. m.
Normal saline employed.....	40 c.c. n/saline DEAD.			37 c.c. n/saline 105.0=6 p. m.
3rd day a. m.			104.9	103.0
..... p. m.			104.4	105.7
4th day a. m.			102.2	104.8
..... p. m.			102.6	105.0
5th day a. m.			101.7	104.4
..... p. m.			101.7	104.0
6th day a. m.			101.3	105.3
..... p. m.			103.0	105.2
7th day a. m.			101.6	104.5
..... p. m.			103.9	104.2
8th day a. m.			102.4	103.7
..... p. m.			102.6	103.0
9th day a. m.			103.4	102.0
..... p. m.			100.8	100.0
	Two injections of saline.	One injection.	Immune.	One injection of saline.

RECORD UP TO DATE.

CHART No. 3.

FORMALIN SERIES No. 1.

In this series a 1-5000 dilution of formalin in normal saline solution was used and 500 c.c. was considered as a normal dose.

JANUARY 20TH.		YELLOW.	RED.	BLUE.	GREEN.
Weight		1024 Grams.	1870 Grams.	1918 Grams.	1525 Grams.
Sex		Female.	Male.	Female.	Male.
Normal dose in ratio of weight		9.03168 c.c.	16.4734 c.c.	16.91676 c.c.	13.4505 c.c.
Dose Inoculated		9.03168 c.c.	24.7101 c.c.	33.83352 c.c.	33.62625 c.c.
Proportion to normal dose		N 1	N 1½	N 2	N 2½
Method of inoculation		Intrav.	Intrav.	Subcut.	Subcut.
Temperature before inoculation		101.2	102.2	102.4	101.2
1st day	a. m.	102.6	102.2	103.8	103.6
	p. m.	102.8	104.2	104.2	103.5
2nd day	a. m.	102.2	101.8	103.0	102.8
	p. m.	102.2	103.6	102.8	94.6
3rd day	a. m.	103.0	102.8	102.8	94.8
	p. m.	103.0	102.6	102.4	96.0
4th day	a. m.	101.4	103.2	102.4	DEAD.
	p. m.	101.6	102.5	102.1	
5th day	a. m.	100.4	103.5	102.4	
	p. m.	102.3	103.7	102.4	
6th day	a. m.	99.9	103.0	102.9	
	p. m.	Killed for exam.	Killed for exam.	Killed for exam.	

CHART No. 6.

FORMALIN SERIES No. 2.

Testing the Different Strengths of Formalin in Normal Rabbits.

STARTED JANUARY 28, 1903.		YELLOW.	RED.	BLUE.	GREEN.
Weight		1245 Grams.	1685 Grams.	1140 Grams.	1652 Grams.
Sex		Female.	Female.	Male.	Female.
Strength of formalin employed		1-1000	1-2000	1-3000	1-4000
Normal dose in ratio to weight		22 c.c.	29.7 c.c.	20 c.c.	29 c.c.
Method of inoculation		Intrav.	Intrav.	Intrav.	Intrav.
Temperature before inoculation, Jan. 28		103.3	101.6	101.3	102.7
1st day	a. m.	101.4	100.4	101.8	102.4
	p. m.	102.2	101.4	102.6	103.4
2nd day	a. m.	101.6	101.5	101.4	102.5
	p. m.	102.0	101.5	101.3	103.0
3rd day	a. m.	101.6	98.4	102.2	102.2
	p. m.	102.4	102.4	102.0	103.0
4th day	a. m.	102.0	99.4	102.7	103.0
	p. m.	102.9	102.6	102.4	103.1
5th day	a. m.	101.4	102.4	101.8	102.9
	p. m.	101.3	103.2	102.4	102.3
6th day	a. m.	102.4	101.2	102.6	103.2
	p. m.	101.4	101.8	102.2	103.6
7th day	a. m.	103.2	99.9	103.0	103.2
	p. m.	103.2	101.8	101.2	103.3
8th day	a. m.	102.1	98.4	102.6	102.8
	p. m.	100.4	101.6	101.5	103.
9th day	a. m.	102.0	98.4	101.6	102.8
	p. m.	100.2	101.4	101.9	102.6
10th day	a. m.	100.4	98.4	101.4	103.1
	p. m.	101.0	98.4	100.9	102.8

RECORD DISCONTINUED.

CHART No. 9.

FORMALIN SERIES No. 3.

Testing the Different Strengths of Aqueous Formalin Dilutions in Normal Rabbits.

STARTED JAN. 31, 1903.	YELLOW.	RED.	BLUE.	GREEN.	VIOLET.
Weight	1445 Grams.	1750 Grams.	1407 Grams.	1700 Grams.	2244 Grams.
Sex	Male.	Female.	Male.	Male.	Male.
Method of inoculation	Intrav.	Intrav.	Intrav.	Intrav.	Intrav.
Strength of formalin dil. employed	1-500	1-600	1-700	1-800	1-900
Normal quantity used	26 c.c.	31 c.c.	25 c.c.	32 c.c.	40 c.c.
Temperature before inoculation, January 31	102.4	102.7	100.0	102.6	102.4
1st day	a.m. 102.0 p.m. 102.4	102.4 102.2	101.7 101.4	102.4 102.8	101.2 102.7
2nd day	a.m. 101.4 p.m. 101.6	103.7 102.4	102.5 102.4	102.0 102.4	102.2 103.2
3rd day	a.m. 102.4 p.m. 102.9	102.8 103.2	101.0 102.4	102.5 103.4	102.5 102.
4th day	a.m. 102.3 p.m. 103.0	103.3 103.8	102.2 103.0	103.1 103.4	102.3 102.1
5th day	a.m. 102.0 p.m. 101.7	102.8 104.6	101.8 102.4	103.6 103.4	102.6 101.9
6th day	a.m. 102.2 p.m. 103.0	103.2 104.4	101.6 102.1	103.2 103.4	102.0 102.6
7th day	a.m. 102.1 p.m. 103.0	104.4 104.4	102.0 101.6	104.4 104.7	102.4 103.0
8th day	a.m. 102.6 p.m. 102.6	104.8 104.4	102.0 102.1	104.4 105.4	102.4 102.2

RECORD UP TO DATE.

CHART No. IV.

Disinfecting Action of the Various Aqueous Dilutions of Formalin on Streptococcus Pyogenes.

TIME OF CONTACT.

DILUTIONS IN WATER.	5 Min.	10 Min.	15 Min.	20 Min.	30 Min.	1 hr.	2 hrs.	3 hrs.	4 hrs.	6 hrs.	8 hrs.	10 hrs.	12 hrs.	14 hrs.	16 hrs.	18 hrs.	20 hrs.	22 hrs.	24 hrs.
1-100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1-200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1-300	O	O	O	O	O	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1-400	+	+	+	+	+	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1-500	+	+	+	—	+	+	+	+	—	O	O	O	O	O	O	O	O	O	O
1-600	+	+	+	—	+	+	+	+	O	O	O	O	O	O	O	O	O	O	O
1-700	+	+	+	—	+	+	+	+	O	O	O	—	—	—	—	—	—	—	—
1-800	+	+	+	—	+	+	+	+	O	O	O	—	—	—	—	—	—	—	—
1-900	+	+	+	—	+	+	+	+	O	O	O	—	—	—	—	—	—	—	—
1-1000	+	+	+	—	+	+	+	+	+	+	—	—	—	—	—	—	—	—	—
1-2000	+	+	+	—	+	+	+	+	+	O	—	—	—	—	—	—	—	—	—
1-3000	+	+	+	—	+	+	+	+	—	—	—	—	—	—	—	—	—	—	—
1-4000	+	+	+	—	+	+	+	+	+	—	—	—	—	—	—	—	—	—	—
1-5000	+	+	+	—	+	+	+	+	+	—	—	—	—	—	—	—	—	—	—
Sterile Water	+	—	—	—	—	—	—	—	—	—	—	—	—	+	—	—	—	—	O
Normal Saline Solution	+	—	—	—	—	—	—	—	—	—	—	—	—	—	+	+	—	—	O

+ = growth. — = no growth. O = to be verified.

OPERATIONS FOR CANCER OF THE MOUTH AND NECK.¹

By G. W. CRILE, M. D., of Cleveland, Ohio.

PRELIMINARY REMARKS.

Of the numerous operations known to the surgical art none have ever been held in higher estimation nor have had more apprehensive consideration than the surgical interventions upon the neck. By the earlier physicians all surgical procedures of this region were almost invariably regarded as pre-eminently fatal, and as such, largely, if not totally, condemned.

STATISTICAL STUDY.

(a) *Lip*.—In the operations for carcinoma of the lips, the statistics appearing prior to 1885, including those of Thiersh, Billroth, Bergmann, Winniwarter, Koch and Partsh, are as follows: Total 535 cases.

Operative Deaths.	Recurrences.	Three-Year Cures.
44 out of 535 cases or, 8 per cent.	128 cases out of 434, or 37 per cent.	108 out of 389 cases, or 27 per cent.

A fair comparison of the results prior to 1885 may be found in the report of the clinic of Von Bruns. From this clinic Wormer in 1886 published a report of two hundred and seventy-seven cases of carcinoma of the lip operated up to that time. In this statistics are to be found as follows:

Operative Deaths.	Recurrences.	Three-Year Cures.
16 out of 277 cases, or 5.7 per cent.	101 out of 277 cases, or 35 per cent.	106 out of 277 cases, or 37.7 per cent.

Loós in 1898 supplemented this report of Wormer by two hundred and sixty additional cases collected in the same clinic since the year 1886. In this the statistics given are:

Operative Deaths.	Recurrences.	Three-Year Cures.
1 out of 141 cases, or 6 per cent.	47 out of 141 cases, or 30 per cent.	93 out of 141 cases, or 65 per cent.

Taking the tables of Von Bruns for the comparison between the results obtained prior to and subsequent to 1886, it is seen that the operative death-rate decreased 5 per cent. and the recurrence 6 per cent., while the number of three-year cures increased over 27 per cent. In the years prior to 1886 the extirpation of the submental and submaxillary glands was practiced only when enlarged and hard. Since 1886 it has been much more frequently, though not constantly, practiced, and since 1895 the resection of the submental and submaxillary glands, through an incision extending between the mandibular angles, has been employed as a routine procedure.

(b) *Tongue*.—The statistical compilations of the operative treatment of the tongue appearing prior to 1885 are:

¹ Address on Surgery, read before the Mississippi Medical Society at Kansas City, October 18, 1902.

	Operative Deaths.			Cures.	
Winniwarter,	46 cases,	19 per cent.	4 out of 46,	8.6 per cent.	(1878).
Steiner,	26 cases,	15 per cent.	1 out of 16,	6 per cent.	
Woeffler,	82 cases,	17.6 per cent.			(1881).
Budinger,			10 out of 64,	15 per cent.	(1881).
Butlin.	70 cases,	11.4 per cent.	6 out of 70,	8.5 per cent.	(1882).
	<hr/> 224	<hr/> 15.7 per cent.		<hr/> 8	<hr/> per cent.

Since then have appeared the statistics of

Whitehead,	39 cases,	4.3 per cent.			
Sachs. Kocher,	57 cases,	10.5 per cent.	3 out of 57,	34.3 per cent.	(1893).
Binder Kroenlein,	35 cases,	20 per cent.	8 out of 33,	24 per cent.	(1896).
Butlin,	102 cases,	9.7 per cent.	35 out of 95,	36.8 per cent.	(1898).
	<hr/> 233	<hr/> 11 per cent.		<hr/> 32	<hr/> per cent.

While in these statistics a sharp delineation as to the period of operation is not to be drawn, as many of the operations reported since 1885 were in reality performed prior to this time, the difference in the results is striking. The rate of the operative mortality in both periods is approximately the same, the number of three-year cures since 1882, however, is found to have been increased four-fold. The reason for the similarity in the percentage of mortality rates in these two periods, with a simultaneous increase in definite cures, is to be attributed to the more radical operation which has been more frequently practiced since 1885.

Tonsil.—From the statistics of Newman Housell, Watson, Cheyne and his own, Butlin was able to analyze seventy three operative cases for carcinoma and sarcoma. Of these fourteen, or 20 per cent., died of the effects of the operation. In fifty-four cases the further history showed the following:

Alive or dead with recurrence	-	-	20
Dead of cancer elsewhere	-	-	3
Well from one to three years	-	-	8
Well more than three years	-	-	9, or 17 per cent.

Cancer of other parts, such as the floor of the mouth, the mucous membrane covering the jaw, etc., have not been reported in sufficient series for separate study. The cases reported show operative results very similar to cancer of the tongue, tonsil and lip.

Cancer of the Upper Jaw.—The report of the clinic of Prof. Koenig is the best large material available for study. In this clinic there have been fifty-seven operations, with nineteen or 33 per cent. of operative deaths, and nine or 15 per cent. cures. All cases have been followed and the report is complete. There was neither affection of the lymphatic glands, nor removal of them in any of the successful cases.

Recurrences occurred *in situ*. Acting upon this, the operations were most extensive. In two of the successful cases the eyeballs were removed. In one the skin of the face was involved and ulcerated. In several there was wide-spread ulceration of the mouth. But one reoperated case was cured. Prof. Koenig strongly recommends removal of the entire bone in all cases, even the

orbital plate. The whole hope of the operation seems to rest upon a complete removal of the primary growth.

(b) *Thyroid Gland.*—The statistical tabulations for the operative treatment of malignant disease of the thyroid gland, which as given by most authors include both carcinoma and sarcoma, both being stated to be equally malignant, are :

Operative Deaths.	Recurrences.	Cures.
Braun, 22 out of 34, 64.7 per cent. (1882).	6 out of 8.	2 (11 and 6 months).
Kroenlein, 5 out of 11, 45.5 per cent. (1893).		
Czerny's clinic, 5 out of 33, 15 per cent.		5 (3-year cures).
Ref. not obtainable.		
Kochner, 6 out of 18, 33 1/3 per cent. (1898).		

Butlin in 1900 published comparative statistical tabulations of seventy-nine operations and their results, which had been performed for malignant disease of the thyroid both prior to and subsequent to 1884. In these statistics :

	Early Series.	Later Series.
Died of operation,	30—62 per cent.	11—35 per cent.
Recurrence,	10	11
Three-year cures,	1— 2 per cent.	1— 4 per cent.
Unheard of and below three-year limit,	7	8
Total,	48	31

The high rate of mortality and the low percentage in three-year cures find their ready explanation in the high degree of malignancy in carcinoma and sarcoma of the thyroid gland. To the high malignancy of these tumors is also to be added the fact that these neoplasms most frequently supervene upon an existing goiter, so that, in many instances, the existence of the carcinomatous or sarcomatous affections escape detection until after the infiltration of the surrounding structures has occurred. This infiltration of the adjacent tissues occurs by direct contiguity. Commonly the carotid artery, internal jugular vein and vagus nerve are either singly or conjointly involved. Posteriorly the trachea and esophagus are also very frequently infiltrated.

The removal of the growth usually requires resection of one or more of the following structures: jugular vein, carotid artery, vagus nerve, trachea and esophagus.

Branchiogenic Carcinoma.—Of the various cancerous affections of the neck-bone, none are seemingly less amenable to surgical treatment than the branchiogenic carcinoma, first described by Volkmann in 1882. In a collection of forty-eight cases by Veau, of which thirty-one were operated, the results reported are :

- Number of cases reported, thirty-one.
- Deaths from the operation, five (or 16 per cent.).
- Recurrences and deaths within one year, ten (33 per cent.).
- Cases under three years and unheard from, sixteen (50 per cent.).

These operations are technically most difficult, and the growth is characterized by high malignancy.

In numerous instances intervention was no longer possible when the patients first presented themselves for treatment. These tumors early involve the great vessels and nerves. The adherence to the carotid artery and its infiltration is a less usual occurrence, but in three instances ulceration into the lumen of the carotid, causing instant death, is reported. Glandular metastases, however, does not usually occur. According to Veau, it was observed but nine times in forty-eight cases.

ANATOMICAL AND PHYSIOLOGICAL CONSIDERATIONS.

(a) *The Lymphatics.*—Carcinoma is to be considered not alone a local disease, but also an affection of the lymphatic system of the area involved. In former years only the glandular involvement of the lymphatic system was considered. Later microscopical studies showed that the lymphatic vessels, proceeding from the affected area to a lymphatic gland, as well as the vessels leading from such a cancerous gland, may also contain carcinoma cells. A mere enucleation of the gland can, therefore, no longer be regarded as an effective surgical procedure. To insure a complete extirpation of the carcinomatous affection it is necessary to remove not only the affected area and its lymphatic glands, but also the intervening area of tissues. The entire anatomical zone in which the lymphatic vessels course and in which the glands lie must be removed *en masse*.

The lymphatic system in the neck is largely in relation to its vessels, the carotid artery and internal jugular vein. The superficial glands are but rarely the seat of metastasis. The deep cervical glands, on the other hand, are very frequently involved. All resections of the lymphatics should be based on a radical technique. In the submaxillary triangle the submaxillary salivary gland is to be removed, as lymphatic nodes lie within its substance and lymphatic vessels are closely and intimately related to it; in the removal of the deep cervical nodes, an anatomical dissection of the carotid arteries, internal jugular vein and vagus is frequently necessary. As many lymphatic vessels are directly superficial to it, or are found within its fibres, the sheath itself should be removed, especially that portion of the sheath in relation to the internal jugular vein. All the connective tissue and fat around these structures should be resected. After a radical dissection, the arteries, vein and nerve are entirely separated, and lie directly on the muscular bed without the intervention of any fascia. By these means alone is it possible to extirpate the lymphatic vessels. Such a radical resection of the lymphatic system of the neck is known from clinical and experimental verifications not to be attended with any deleterious consequences. In the extirpation of the inguinal and axillary nodes it has been noted that a pseudo-elephantiasis in the leg or arm may at times occur. In the neck, however, no such effects have ever been observed.

(b) *Sterno-Mastoid.*—The thorough exposure of the deep cervical glands requires the division of the sterno-mastoid muscle. Neither division nor partial removal are followed by any subsequent deformities, such as torticollis. The synergistic action of the trapezius, splenius capitis, and other muscles fully compensate for the loss of the functional action of this muscle. After the division of the sterno-mastoid muscle the two ends readily unite, while in the partial resection fibrous tissue formation occurs in the interval. In the latter case there may be a depression on the superficial surface of the neck.

(a) *Spinal Accessory Nerve.*—The fear of a resulting post-operative torticollis, which has been expressed as occurring from the division of the spinal ac-

The great variation in the mortality rate from 13 per cent. to 50 per cent. can most readily be explained by the fact that in these various collections cases of hemorrhage, aneurysms and other affections are all included and variously commingled. When considering that in ligation of this for hemorrhage, death is most frequently the result of the loss of blood, also that in aneurysms the arterial walls are diseased and have lost the required elasticity essential for the establishment of the collateral circulation, it becomes apparent that such statistics are inaccurate. Concerning wounds of the carotid artery there is an old adage that it requires two minutes to ligate this vessel and four minutes to bleed to death.

The high mortality rate of most statistics is furthermore increased by the inclusion of the cases of ligations performed in the pre-antiseptic times. In fact, most of these statistics were gathered during this period. Nieten, in a collection of fifty-seven cases of ligation, which were performed during the years from 1888 to 1893, and which, therefore, properly fall within the antiseptic period, reports a mortality rate of but 19.8 per cent. Zimmerman, from sixty-four cases, also falling within this period, obtained a mortality rate of 13 per cent. From a closer analytical study it is apparent that all statistics which have as yet appeared on the subject of carotid ligation are utterly valueless, with reference to any deductions as to the results of the permanent occlusion of this vessel *per se* when performed during extensive operations upon the neck.

A much more definite conclusion as to the immediate effects, and as to the direct mortality rate, is to be derived from the reports in which the carotid was deligated in such affections as epilepsy, neuralgia, etc.

The following collection is illustrative:

	No. of Cases.	Cured.	Died.
Velpeau	3	3	..
Norris	8	8	..
Pilz	34	33	1 (3 per cent.)
Wyeth	40	38	2 (5 per cent.)
	—	—	—
Total	85	82	3
Mortality rate 3 per cent.			

In ligation of the carotid artery preliminary to or in the course of major operations upon the neck the following are illustrative:

	No. of Cases	Cured.	Died.
Velpeau	26	16	10 (38 per cent.)
Norris	18	12	6 (33 per cent.)
Pilz	59	38	21 (29 per cent.)
	—	—	—
Total	103	66	37 (36 per cent.)
Mortality rate 36 per cent.			

The comparison with the preceding shows that it is impossible to differentiate the various factors. A more exact conclusion as to the immediate effects of deligation of the carotid artery, during operative resections of the neck, is to be obtained from the statistics of Keyher, of St. Petersburg. This collection of carotid ligations consists solely of those done as a preliminary measure to major

operations on the neck. To avoid cerebral complications pressure was applied over the artery during ten to fifteen minutes of every hour for eight days prior to the operation. In twenty-one such ligations but one death resulted. Wel-jaminaw, in 1881, reports twenty additional cases from this same clinic, making a total of forty-seven cases with but one death, or 2 per cent.

From the various statistics at hand for the mortality of complicated ligation of the carotid artery only two sources are available. One is the summary of these cases in which the deligation was performed for sundry nervous affections such as epilepsy, neuralgia, etc., the other, the collection of Keyher, just mentioned. It can be assumed that 2 per cent. or 3 per cent. is the true mortality rate of uncomplicated ligation of the carotid artery.

The cerebral complications following permanent closure of the common carotid are much more important. Le Fort gives them as 30 per cent., out of which 73 per cent. ended fatally; Pilz, as 32 per cent., with mortality of 56 per cent.; while Friedlander gives it as 19 per cent., out of which 68 per cent. died.

(a) *The External Carotid.*—Instead of ligation of the common carotid artery it has been frequently advocated that the ligation of the external carotid artery be whenever possible substituted. That immediate mortality rate, as compared with that of the common carotid artery is not visibly decreased, is indicated in the statistics of Lipps, in which among 130 in two, or 1.5 per cent., the cause of death was directly attributed to the ligation of the vessel. A thrombus in these two cases, as found post mortem, extended from the point of the ligation into the lumen of the common carotid artery, and had caused a cerebral embolism. Wyeth, in his statistics of sixty-seven cases of uncomplicated ligation of the external carotid artery, reports three deaths, or a rate of mortality of 4.5 per cent. But the pregnant and grave cerebral complications do not follow.

(a) *The Vagus.*—In some cases it is necessary to divide or resect the vagus. Its extensive distribution, the numerous important organs it innervates, have been thought to render division of the vagus fatal. The unilateral division and resection of the pneumogastric has been frequently successfully practiced. The hypothetical disturbances, such as increased cardiac activity, lessened and deepened respiration and dysphagia, have been clinically shown not to occur.

The only alteration of functional disturbance which is constant is the paresis of the vocal cord on the side of the division. It persists in almost all instances, although in the course of time an amelioration is not uncommon. The division of both nerves is not to be considered.

Inferior Laryngeal.—Section of the inferior causes motor paralysis of the corresponding side of the larynx, and of a portion of the esophagus. The effects *per se* are not fatal. From the paresis of the esophagus resulting from the division of the inferior laryngeal nerve, as well as from the paralysis of the epiglottis, when the superior laryngeal nerve, or the vagus above point of origin, is severed, the occurrence of the so-called vagus phenomena has been assumed to result. It has been advised by Shou that in such instances of unilateral division of the vagus or inferior laryngeal nerve, tracheotomy be immediately performed, and the trachea be tamponed in order to prevent the aspiration pneumonia. The pneumonia, which results in such instances, has probably but a slight causal relation to the division of these nerves. Its etiological factor is the extensive operation itself, during and after which blood and secretions can readily enter the respiratory passages.

Thoracic Duct.—During resections in the antero-inferior angle of the inferior carotid triangle the cervical portion of the thoracic duct has occasionally been injured or totally severed. The vessel in this position arches over the apex of the left lung, and, according to the usual description, empties into the angle of the confluence of the left subclavian and internal jugular vein. More concise anatomical investigations have, however, revealed numerous variations in its course, position and termination. The arch which the duct forms in its course over the apex of the lung varies considerably. Henle speaks of an instance in which the arch was situated two inches above the top of the sternum, touching the thyroid gland. The numerous variations along the whole course of the duct may assist in the more rapid establishment of collateral circulation. Anastomosis between the thoracic duct and the venous circulation, other than its single, normal confluence, are known not to be unusual. These accessory communications are most frequently found near the termination of the thoracic duct where these collateral channels, from three to six in number, empty singly into both the subclavian and internal jugular vein. According to Brinton, when these accessory terminal anastomoses are present, each of the large veins receives one or more of these ducts. Collateral channels between the thoracic duct and the vena azygos major, and even the inferior vena cava, have been found. The importance of these accessory channels is evident, as their presence insures the rapid re-establishment of the collateral circulation when the main duct has been severed. Death resulting directly from such operative injuries has as yet not been reported.

ARE PATIENTS WHO ARE NOT CURED RELIEVED BY THE OPERATION?

In general, if the growth cannot be completely removed, or if there is early local recurrence, the answer is decidedly negative.

If completely removed the rate of growth is increased, the patient reduced in strength, the total suffering probably increased and the end hastened.

Death from glandular involvement is a decided gain over either that from original growth or from local recurrence.

In tongue cancer, the "horrible fetor," profuse and foul salivation, its pitiless, incessant, weary, racking, aching of the tongue, ear, face and teeth (Jacobson), is much worse than death from glandular recurrence. Likewise, in cancer of the lip the death in the unsuccessful cases is usually due to glandular involvement and constitutes a decided gain.

In cancer of the upper jaw, the great majority of the unsuccessful cases die of local recurrence, frequently within a few weeks or months. "With the return of the growth there is usually a return of the pain and distress the operation was intended to relieve." (Butlin.)

Unless curative the operation is not palliative, and unless there is a reasonable prospect of cure it should not be performed. In cancer of the tonsil, the uncured cases usually die of glandular metastases, and so produce less suffering than the original growth.

The unsuccessful lip cases often give a good measure of relief; not so in those for the thyroid gland and the branchiogenic carcinoma.

TECHNIQUE.

Preparation of the Patient.—In cancer of the mouth there is usually a large amount of infectious material and debris upon the mucous membranes and the

teeth. The teeth should be put in order by a dentist, and the mouth repeatedly cleansed and disinfected before the operation. In cases in which there will be interference with feeding, there should be forced feeding prior to the operation. Rather than the usual pre-operative fasting period, a modified diet should be continued and the stomach washed out just before anesthetic. To prevent chilling during operation, I have for the past year placed the patient upon a hot-water bed, designed by the Goodrich Rubber Company, to fit the operating table.

Preliminary Tracheotomy.—Irritation, cough, tracheitis, bronchitis, bronchopneumonia, and even death, may follow simple tracheotomy. Besides, the patient is not able to clear the throat of mucus and wound discharges. On the other hand, our present means of controlling hemorrhage, the method of anesthetizing through rubber tubes passed through the nose, with tamponing the pharynx in suitable operations, removes the dangers and the difficulty for which tracheotomy is usually performed. Special circumstances may require tracheotomy, but, as a general proposition, it is no longer indicated.

Preliminary Administration of Drugs.—Hypodermatic injection of atropine to prevent inhibition of the heart is indicated in all operations in which the superior laryngeal or the vagus may be involved. Unless some general contraindication exists, morphine should also be given, so that during the deeper and more tedious part of the operation but slight, if any, general anesthetic will be necessary. The deeper parts of the neck and mouth have comparatively little sensory nerve supply. Preliminary administration of such drugs as strychnine, digitalis, brandy, etc., is not only useless, but harmful.

The Control of Hemorrhage and the Administration of the Anesthetic.—A study of the mortality tables of the best surgeons of to-day shows that a very considerable percentage of operative deaths in the larger operations are due directly to hemorrhage. Of the larger number of deaths reported as caused by shock, exhaustion and anemia, the principal factor, as Butlin has pointed out, is hemorrhage. To this must be added a very considerable number due to the entrance of blood into the pulmonary tract, causing death from toxemia or pneumonia. More hemorrhage is caused by the innumerable smaller vessels than by the larger. If all these smaller vessels are picked up as they are divided, so that the loss of blood may be kept within the limits of safety, and a clear operative field maintained, the operation is dangerously prolonged. The arterial blood supply should be controlled. This may be done by either permanent or temporary closure of the carotid artery. Permanent closure of the external carotid carries with it, on account of thrombosis and embolism, an immediate mortality rate of one to two per cent. Permanent closure of the common carotid in the cancer age of patients has an immediate operative mortality of about three per cent.—with from twenty to thirty per cent. of cerebral complications, about one-half of which terminate fatally. Experimental and clinical research has shown that the carotids may be closed during the operation with perfect safety.

The writer has temporarily closed the common and the external carotid with an instrument especially designed for that purpose, forty-three times, and has not, in a single instance, noted any unfavorable side effects. The free anastomosis necessitates in some operations a bilateral closure. This may be done, but there have been as yet too few cases for deductions. The time required for applying this instrument and closing the artery is usually from two to five minutes. The clasp should be closed just enough to approximate the vessel walls,

more than this may be harmful. This requires but little pressure. Venous hemorrhage is not by this means controlled. After the carotid is closed, the branches when severed discharge the blood they contain—amounting to a small passive hemorrhage. When the vessels have been closed, the field of operation may be kept clearer of blood by hemostat and assistants, and dissection may be more precisely and quickly done. At the close of the operation but few vessels require ligation. In all operations in the mouth excepting those in the pharynx, the following technique prevents blood from entering the trachea, secures free respiration, keeps the mouth open, the tongue well forward, simplifies the administration of the anesthetic, and removes the anesthetizer from the field of operation. This technique consists in:

(a) Placing the patient under full surgical anesthesia.

(b) Cocainize the pharynx.

(c) Pass as large a rubber tube through each nostril as it will permit, back to the level of the epiglottis, cut the tubes off as long as necessary, to remove the anesthetizer from the field of operation.

(d) Pull the tongue well forward.

(e) Firmly pack the pharynx above the epiglottis with large pieces of folded gauze. Arrange the packing so as to make pressure and counter-pressure against the soft palate, pharyngeal wall and pillars, posterior hard palate, and the base of the tongue. This creates and maintains an air chamber in the lower pharynx through which free exchange of air may take place by means of the rubber tubes between this air chamber and the outside air. The packing may be so arranged as to give a free field where desired. In removal of the tongue, this organ may be "packed" so far forward as to protrude well out of the mouth. The lower jaw is simultaneously well opened. The pressure against the base minimizes hemorrhage. Neither forceps, silk loop, nor other mechanical means for controlling the tongue are needed. In operations on the palate, neither tongue depressor, nor mouth gag is required. None of my cases have vomited. In that event the gauze may be removed in an instant. As for mucous, the atropine controls it fairly well, but the gauze packing extends over the mucous protruding area and absorbs it. The operations performed by this method have passed off with surprising ease and smoothness.

Plan of Dissection.—The dissection should be as logical and as thorough as in the operation for cancer of the breast, and should be as definitely planned. First temporarily close the common carotid artery of the neck, extend the incision upward to the angle of the jaw. From this point make lateral incisions parallel with the lower border of the jaw. Reflect the skin over the entire area of the possible glandular involvement. Palpate the field. If glands are enlarged, divide the sterno-mastoid muscle transversely. Ligate the internal jugular vein in two places and divide between. Then from below upward remove all the lymphatic bearing tissues, which amounts to a complete removal of the cervical fascia. Remove every structure lying between the integument and the deep muscular plan of the neck. Unhesitatingly remove, if necessary, the internal jugular, sterno-mastoid, vagus, external carotid, omohyoid, stylohyoid, submaxillary salivary gland, the hypoglossal nerve—in short, every structure on one side of the neck, except the internal and the common carotid arteries; fortunately, these are not usually directly invaded. In unilateral dissection there should be but two objectives; the removal of the disease and the preservation of

the blood supply of the brain. I have obtained three-year cures in extensive glandular metastases by this radical procedure. Removal of individual glands is to be condemned. Compromising the technique by trying to save structure not essential to life or comfort, is a misinterpretation of the question on a par with that of the older surgeons who sacrificed lives by trying to save a part of the breast.

Should the Neck and the Mouth Dissection be Done at the Same Operation?—This question is best determined upon the merits of each individual case. If in doubt, it would be better to remove the primary growth first, then the regional lymphatic system several weeks later. It must be remembered that secondary hemorrhage still occurs in cases in which there is infection—such as is likely to occur when the neck wound connects with that within the mouth.

After-Care.—Special nursing, sufficient nourishment, warm moist air in mouth cases, getting the older patients up almost from the first are most important.

SUMMARY.

In the past three decades there has been a continuous decrease in the operative mortality and, with the single exception of the branchiod cancers, a more notable increase in the percentage of cures has been accomplished. Especially in the last decade there has been evidence of more confidence in operations, as indicated by an increased number of cases submitted early. The supreme importance of early diagnosis and early and radical operation is becoming widely recognized. The same may be said of the so-called "precancer" stage, especially of the tongue. Except in cancer of the upper jaw, the disease is now regarded as involving the regional lymphatic system as well. The disease may be found in the lymphatic vessels as well as in the lymphatic glands. It rarely extends to other parts of the body. Physiologic and clinical evidence show that severing the thoracic duct causes but little disturbance, owing to its free anastomoses. That the effect of resection of the internal jugular vein are practically nil; that unilateral resection of the vagus does not alter the heart's action, the respiration, nor the digestion, but produces a permanent hoarseness only. That division of the superior laryngeal causes anesthesia of a part of the larynx, but pneumonia is improbable; that division of the inferior laryngeal causes paralysis of the corresponding vocal cord, but interference with respiration is not marked; that the division of the spinal accessory has but slight effect, on account of the double nerve supply of the sterno-mastoid, and the synergistic action of other muscles; that the division of the hypoglossal causes temporary interference with speech, and swallowing, but compensation occurs; that the submaxillary salivary gland may be removed without symptoms; that the removal of the sterno-mastoid is not followed by torticollis, etc., on account of the synergistic action of other muscles; that the complete removal of the lymphatic system of one side does not produce a pseudo-elephantiasis of the face and head; that permanent closure of the external carotid has an operative mortality of one to two per cent., due to thrombosis and embolism; that permanent closure of the common or internal carotid is attended by an operative mortality of about three per cent., but in the cancer period of life from twenty to thirty per cent. of cerebral complications follow, about fifty per cent. of which prove fatal; that temporary closure of the carotid by means of a special clamp, as shown in the writer's forty-three cases,

in which neither death nor cerebral complications occurred, is both efficient and safe. These physiological and clinical data lead to but two objective points in a unilateral operation for cancer of the mouth or neck, viz.: complete removal of the disease, and preservation of the blood supply of the brain. If necessary, sacrifice every other structure between the skin and the plane of the deep muscles of the neck. Loss of blood is the greatest operative difficulty and danger, and usually the cases of least shock are the cases of least hemorrhage. If hemorrhage is likely to be considerable, the common carotid should be closed during the operation. In the mouth cases the anesthetic may be administered through rubber tubes passed through the nostrils to the level of the epiglottis, with the tongue well drawn forward. The pharynx may then be packed with gauze, so as to form an air chamber in the lower pharynx, effectively prevent blood from entering the pulmonary tract. The dissection should be made on the same plan and as thoroughly as in the radical operation for cancer of the breast. The greater ease and certainty with which diagnosis may be early made in this region, the rarity of its extension beyond the glands of the neck, should enable the surgeon to obtain even better results here than in cancer of the breast. The hope of the patient lies in early diagnosis, early operation, and a logical technique.

A NEW SURGICAL TABLE.

BY BRANSFORD LEWIS, M. D., of St. Louis.

The table shown in the accompanying illustrations is designed to meet the special requirements of one working in genito-urinary or gynecological lines, either at office or hospital, as well as to answer for general surgical needs. Its adaptation to general work is apparent and need not be dwelt on. The extended posture, the ready ability to place it at various angles in extension, or to obtain the Trendelenburg position, or the possibility of causing instantaneous lowering of the head of the patient, in case of syncope or cessation of respiration, executed by the anesthetist himself, without the operator having to soil his hands by assisting; the absence of retarding or ill-working ratchets in the entire mechanism, for which are substituted clamps that work instantly; stirrups either extended or elevated (the latter furnishing fixed lithotomy position, etc.)—are all appropriate for general surgical work.

A feature that is extremely useful in office work, enabling the surgeon to examine or operate on genito-urinary patients without the necessity of removing the clothing, is the forward central drainage it gives. The trousers are simply pushed down below the drainage-pan opening; and the stream being directed forward and immediately into the drain pan, is taken care of without soiling the clothing above or below.

But the special properties, to meet which, in fact, the table was designed, are those referable to its adaptation to cystoscopic work and ureteral catheterization. It furnishes positions for this work that are as nearly comfortable for the patient and desirable for the operator as can be given.

For this purpose the patient is placed in a sitting posture, with moderate elevation of the head-rest, the legs on the crutches. The table almost balances, with the patient in this position, so that one person, without any assistance, may lower the head to any angle desired, such as is shown in Fig. 2 or 3. A feeling



FIG. 1.—The Bransford Lewis surgical table in position of extension; forward drainage, permitting of examinations, minor operations, etc., without removal of clothing.

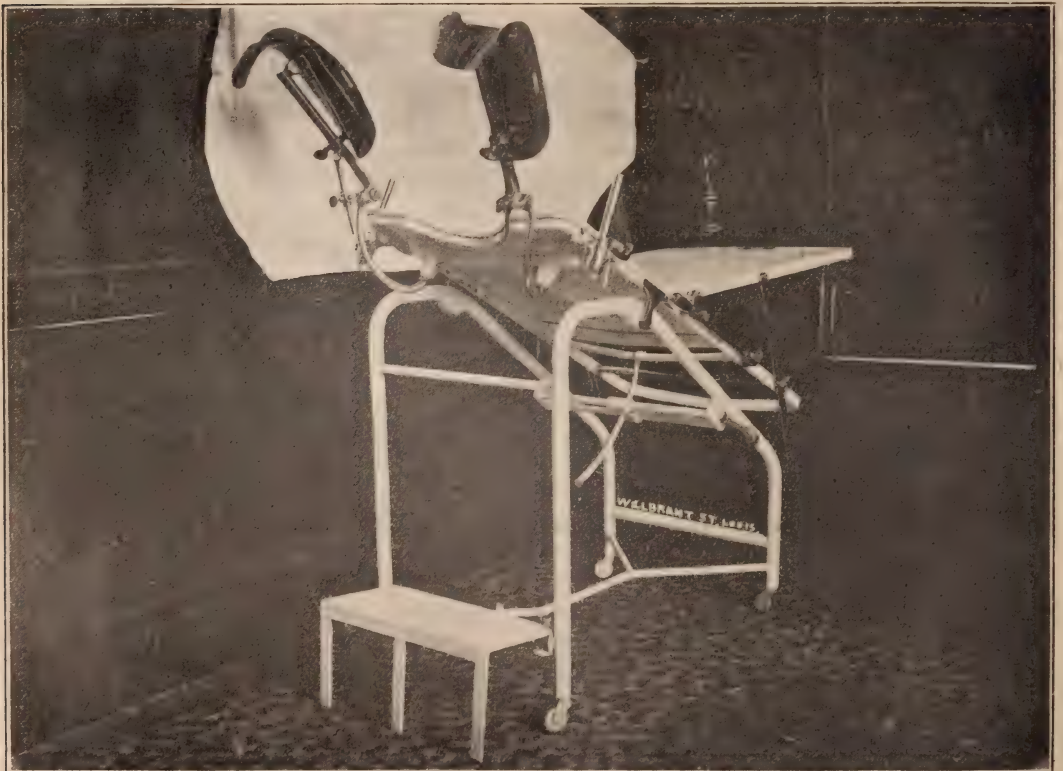


FIG. 2.—The table in position for cystoscopy or ureter-catheterism, as further shown in Fig. 3.

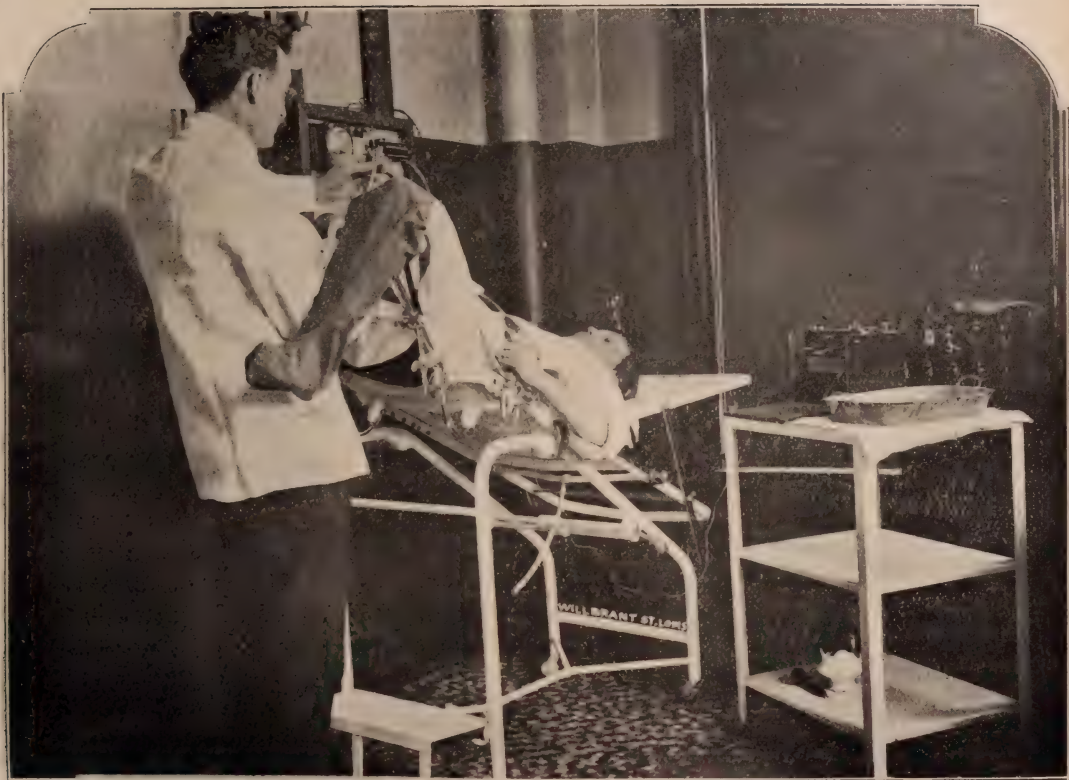


FIG. 3.—Table and patient in position for cystoscopy or ureter-catheterism. Pelvis elevated, legs flexed and comfortably supported by crutches, placed at any angle or height desired: hands grasping handles. Foot-stool present, for use if desired. No strain in the posture.

of security is contributed by the handles which he grasps, and these keep the hands out of the way also.

The crutches are so arranged that they adapt themselves to any length of thigh; their main joint is located directly under the hip-joint, making exact correspondence between the movements of these in abduction and adduction; and the universal hinges of the crutches keep them adapted to any angulation at that point. The cut-out at the end of the table renders the patient more accessible for perineal or for gynecological work. The head-piece slides back and forth along the table to correspond to different sized patients. A foot-stool is instantly moved into position or out by the foot of the operator.

The strong, substantial construction of the table is appreciated by the patient who is to be placed in the elevated pelvic posture.

In using my method of cystoscopy or ureteral catheterism with air inflation of the bladder (instead of fluid), this table facilitates the procedure very materially. While the head is being lowered and the pelvis raised, the body and limbs are maintained in their same relative position; and the patient being comfortable in that position, no strain is placed on the abdominal or bladder muscles, which would make resistance to the easy inflating of the bladder.

I wish to thank Mr. Willbrandt, of the Emil Willbrandt Surgical Manufacturing Company, for his skill and assistance in the construction of the table.

627 Century Building.

SPECIAL ARTICLE.

ADDRESS OF WELCOME TO PROFESSOR LORENZ.

BY H. AUGUSTUS WILSON, M. D., of Philadelphia, and a Sketch,* by M. R. DINKELSPIEL, M. D., of Philadelphia.

The American people are naturally of an enthusiastic class, but the enthusiasm is seldom manifested at the expense of mature deliberation. In describing Dr. Lorenz and his skill I have endeavored as far as possible to strip the subject of all sentiment and elaboration in order that he may be considered on one hand from a purely scientific standpoint, and, on the other, from an impartial sociological point of view.

The slightest stagnation in the progress of medical science offers boundless opportunities for explosions of energy, but it ultimately requires a well-balanced and authenticated demonstration of skill or discovery to bring the medical world at the shrine of acceptance and co-operation. It was, therefore, with no little expectation, and I might say curiosity, that the amphitheatre was filled with surgeons of distinction and pre-eminence, an audience not only of international reputation as far as criticism is concerned, but one which was eagerly awaiting the practical demonstration of the long and much-heralded skill and dexterity of Prof. Lorenz.

There was undoubtedly much speculation as to his individuality, notwithstanding that the lay press had been teeming with his photographs. This speculation, however, was not satisfied by any sudden or demonstrative entrance of Dr. Lorenz. On the contrary, he must have been in the amphitheatre for a little while before he was located amidst his assistants, so unobtrusive and so inextricably blended with the others did it appear he had become, before he was applauded. The most careful scrutiny and the keenest observation failed to detect in him the slightest evidence of self-consciousness or assertion. His personality grew upon one, as it were. Over six feet in height, magnificently proportioned, rather of an Apollonean than of a Herculean type, with a beard of patriarchal proportions, and eyes combining intensity yet benevolence, with graceful posture and movements, he presented indeed a striking appearance. He responded to the tremendous applause with befitting grace and dignity, yet it could easily be observed that it was entirely unsolicited. He was welcomed in the following address by Prof. H. Augustus Wilson:

"Dupuytren announced in 1829 his conviction that congenital dislocation of the hip was not only incurable, but that even palliation was impossible. For nearly sixty years the medical profession showed its conviction of the soundness of Dupuytren's statements, and no attempt was made to do more than overcome the shortening by the use of high sole shoes or apply some form of brace.

In 1887 the American Orthopedic Association was organized. In the same year Buckminster Brown, of Boston, one of the original Fellows, reported a case that has become historical, in which he proved the curability of this condition by the long-continued use of extension in recumbency. His case was kept on his back for thirteen months with extension constantly applied. The result was restoration of function.

William Adams, of London, was at the same time devoting attention to recumbency without extension, with resulting arrest of progress, but lacking establishment of function. Schede, of Hamburg, had long relied upon mechanical support in the form of varying sorts of braces.

* Based upon observations at a clinic held at the Jefferson Medical College Hospital, Philadelphia.

In 1890 Hoffa, of Wurzburg, first directed attention to his cutting operation, and statistics rapidly accumulated showing that the formerly hopeless deformity was curable.

Lorenz, of Vienna, became interested and an advocate of the cutting operation, which he continued to perform until 1892, when he abandoned it for the bloodless method of reposition, which has since been known as the Lorenz method.

Paci, of Pisa, had tried, previous to this time, unsuccessfully, to reduce a congenital dislocation of the hip in an adult, and by some is referred to as having originated the procedure which Lorenz perfected. Lorenz clearly proved its applicability to suitable cases, and established its permanency and freedom from the mortality which followed the Hoffa cutting operation.

Abbot says there are three elements necessary for success:

'A great work undertaken, a great enthusiasm undertaking it, and a great end kept steadily in view.'

To Lorenz belongs the credit of discernment in applying the method in early childhood before the gross changes to acetabulum, head of femur and surrounding soft structures, has taken place.

He has observed that his bloodless method was unsuitable to a case that has been allowed to walk until the age of seven years, because the acetabulum would by that time have undergone permanent changes. These cases of seven years or over were only capable of permanent cure by a cutting operation, but much of the severity of that procedure would be rendered unnecessary, if the bloodless method were first efficiently practiced.

E. H. Bradford, of Boston, and Royal Whitman, of New York, have been conspicuously active workers in both the Lorenz and Hoffa methods, and every orthopedic surgeon has had occasion to successfully treat congenital dislocation of the hip, which condition was in preceding decades thought to be incurable and without application.

The varying statements as to the permanent cures have their basis in one or two features. Lorenz's 60 per cent. has been secured by his enthusiasm and skill, as well as by his applying his method very largely to children under six years. The statistics of American orthopedic surgeons of 25 per cent. of cures by the bloodless method is the result of many different operators who have often applied the method correctly to suitable cases.

The high mortality and ankylosed joints that have followed the Hoffa operation and its modifications has caused every one interested in these cases to rejoice at the opportunity which Lorenz's visit to America has afforded, to become more familiar with his selection of cases, technique and subsequent treatment. Various rumors ascribe Lorenz abandoning the Hoffa operation and advocating the bloodless method to a surgical eczema of the hands. Whether this is accurate or not matters little, for no matter what the incentive, the fact remains that the profession owes to Adolf Lorenz a deep and lasting gratitude for having originated and perfected a cure for congenital dislocation of the hip with a minimum of risk to the patient.

Medical history is full of instances of disputed credit for originality or priority of invention, notable instances of which are Harvey's discovery of the circulation of the blood and Morton's successful use of ether for anesthesia. Attempt has been made to take away from Koch, the father of bacteriology, the credit for the discovery of the bacillus of tuberculosis by the assertion of Warren that Baumgarten was the first to see the bacillus under a microscope, but acknowledging that Koch was the first to cultivate it successfully and describe it. Benjamin Jesty inoculated his wife and two children twenty-two years before Jenner is said to have discovered vaccination. That Nicolononi was undoubtedly the first to apply tendon transplantation to club-feet, but that he simply accepted the method as previously used by Duplay in a case of paralytic hand.

There are those who would have us believe that because Paci, of Pisa, resorted to the bloodless method of reposition of congenital dislocation of the hip before Lorenz described his technique the operation should be called Paci's operation, or Paci-Lorenz method. The facts, however, are that Paci was unsuccessful in his attempts to reduce a congenital dislocation in an adult, while Lorenz grasped the essential idea that to be successful the operation should be resorted to in early childhood, and that in addition to early reposition definite procedure should be employed to secure permanency. The elaboration of these essential details enabled Lorenz to be the first to successfully and permanently cure a case of congenital dislocation of the hip, and thereby secure the undisputed credit for the operation which very properly bears his name.

The Jefferson Medical College and the medical profession of Philadelphia extend a cordial greeting to Dr. Adolf Lorenz, Professor of Orthopedic Surgery in the University of Vienna."

At the conclusion of this address Dr. Lorenz's versatility became manifest. He briefly yet concisely responded, and, although a foreigner, as evidenced by the German accent, he nevertheless displayed a remarkable command of the English language, having a thorough grasp of the grammar, vocabulary and diction and a surprising command over idiomatic phrases. He was never at a loss for the right word at the right time, and in the right place.

The literature on the operative treatment of congenital dislocation of the hip has already been thoroughly reviewed in the address of Professor Wilson. It

was in the practical application of his methods that Dr. Lorenz, without a doubt, displayed the dexterity and manipulative skill with which he had been so deservedly credited. The moment he grasped the limbs of the patients it could be seen that there was no superficiality or pretense about him. The manner in which, step for step, he described the scientific data connected with his manipulations amply proved, to use a homely expression, "that he thoroughly knew what he was about." All had evidence of the reposition of the head of the femur into or against the acetabulum, and all left the amphitheatre with the feeling that they had been in the presence of a master.

It still remains for me to place on record a complication which may yet become of considerable interest, and one which Professor Lorenz himself in all his experience witnessed for the first time in this instance. I am indebted for the following notes to Dr. P. H. Moore, now resident physician at the Jefferson Medical College Hospital. The phenomena were also witnessed by Professor Wilson.

"The child had been under ether for thirty-five minutes the day previous to the day upon which she was operated upon, in readiness for Professor Lorenz, but he was too exhausted to take this, the fifth patient.

At 9:15 P. M. the right hand was observed to begin to move in an indefinite, convulsive manner, and the patient rapidly passed into a state of stupor; the eyes became fixed, pupils dilated, did not respond to light; the tongue protruded, and semi-frothlike saliva dribbled from the mouth. The face was markedly pallid, and felt cold to the touch. Breathing was somewhat slower than normal and labored. Occasionally the lower jaw moved slightly, but there was no biting of the tongue.

The pulse was not rapid, but was decidedly weak. Later it became rapid, and could not be counted owing to arm movements.

The right leg was several degrees lower in temperature than the left, and offered almost no resistance in manipulation.

In three-quarters of an hour the stupor began to lessen; respiration became more nearly normal. A slight flush came to the cheeks, the tongue retracted, and the muscles of the face showed some 'twitching movements.'

The right hand underwent convulsive movements, the head was turned violently from side to side; there were mild clonic contractions of the muscles of the back, and speech, slowly restored, became coherent.

In about an hour and three-quarters the condition was practically the same as before the attack. The child did not sleep.

At 12:30 (same night) there was a much briefer attack, showing most of the above phenomena in modified form.

Restless sleep until morning. There was no recurrence, and no resulting paralysis. The child was languid."

Professor Lorenz, in a personal communication, said (after reading the above record of the phenomena) that he had never had a case in which convulsions followed the operation, and he considered shock and trauma as the cause of this case.

INTERSTATE MEDICAL JOURNAL.

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EDITORIAL COMMENT.

REORGANIZATION OF THE MISSOURI STATE MEDICAL ASSOCIATION.

The date of the meeting of the State Medical Association has been changed from May 19-21 to April 21-23 at Excelsior Springs, in order to antedate the meeting of the American Medical Association at New Orleans on May 5-8.

The work of reorganizing the State Association is necessarily slow; nevertheless much has been accomplished and by the time the meeting takes place it is hoped that such progress will have been made as to demonstrate the wisdom of the new order of things.

The Judicial Council has been untiring in its efforts to effect an organization in each county and every member of this body has sacrificed time and money in his endeavor to further the interests of the profession in Missouri. While at this writing it is not possible to definitely state the number of county societies that have been organized, nor to estimate the number of members the state organization will enroll at its next meeting, what has been accomplished justifies the assumption that the majority of counties will be represented and the membership of the State Association increased ten-fold.

As the unit of organization is the county society, it is absolutely necessary that each county have its representative body through which membership in the State Association and the American Medical Association may be had, since it is only through this unit body that such membership is obtainable. Therefore, in

counties where there are no county societies but in which local societies exist, these local societies should make application to the Judicial Council for affiliation with the State Association, and it would further the work of organization if these local societies would reorganize and be made the county societies, and thus make uniform the source from which the State Association draws its membership. In counties destitute of any society a county organization should be effected at once and application made to the Judicial Council for affiliation.

In Missouri there are one hundred and fourteen counties and the city of St. Louis, the latter not being in a county. If each county supported a society with an average of only twenty-five members, there would be a total of nearly three thousand in the State Association—nearly one-half of the total number of physicians in the state.

As a profession we have failed to appreciate the amount of influence we can exert when any measure is contemplated looking toward the improvement of our eleemosynary institutions, the general health laws and sanitary conditions in our state, and with a poorly organized profession this influence is almost wholly lost. Aside from the satisfaction of having a well-organized state body working harmoniously in the cause of humanity, a united profession could wield an overpowering influence in all matters pertaining to the general welfare of the state and country.

STATE PHYSICIANS FOR HOLLAND.

According to the *Bulletin de Therapeutique*, the physicians of Holland are elaborating a scheme whereby the state is to take in hand the remuneration of country practitioners, thereby freeing them from the cares and anxieties arising from the non-collection of fees. The idea is to have the state levy a special tax of from one to two per cent. on the incomes of all who earn over 500 florins annually.

There would be one state physician to each 2000 inhabitants, making for Holland with its five million inhabitants, 2500 physicians.

In this manner, while medical assistance is at the disposal of everyone gratis, its cost is borne entirely by the comparatively well-to-do. If actually carried out, it would represent a long step on the way to state socialism.

MEDICAL JOURNALS.

In a recent number of the *Philadelphia Medical Journal*, Dr. James C. Johnson indulges in a bit of retrospection that cannot but interest everyone who has given any thought to the subject of medical journalism. His views are so thoroughly in accord with some that have been expressed from time to time in our columns that we would lend impetus by directing special attention to them.

We should advise both editors and readers of medical journals to peruse these well-worded thoughts carefully. Their tendency will be to inspire the editor to endeavor to eradicate some of the present-day evils, and to demonstrate to the critical reader how many of these evils he himself is responsible for.

The writer of the article has had the experience in journalism which enables him to speak with conviction and handle intelligently every phase of the subject.

The establishment of medical journals seems to have become a fad, but unlike most fads, we fear, is not to be short-lived. The pendulum continues to swing to the one extreme and shows as yet no sign of returning to a rational

balance. The results of this promiscuous and needless journalism can hardly be calculated now. As we have had occasion to say before, in a large percentage of cases their establishment is prompted by mercenary motives. Be this as it may, their pages must be filled. It matters little to the editor who the contributors are, or whence the source of their information. The consequence is that journals are filled with text-book articles (which suffer as a result of attempted transposition), or the reports of a "consecutive case" of some simple malady with a "hundred per cent. of recoveries," or mortality, as the case may be. That this encourages superficial work among physicians there can be no doubt. Unfortunately this contagion is not confined entirely to those who are superficial by nature. We think that we have noticed an inclination on the part of those from whom better things were expected, to yield to the temptation to have their names appear at the head of as many articles as possible in as many corners of the earth as possible. Whether these are simply courtesies to the editors who request contributions, or a bit of so-called "legitimate advertising," we do not know. If it is intended to meet the latter necessity (?) then we should recommend a form of newspaper advertising which may be considered just as legitimate, which yields quicker results and which is vastly more humane.

THE INTRAVENOUS INJECTION OF FORMALIN IN SEPTICEMIA.

New remedies are always interesting. If they carry with them the prospect of relief in conditions that now resist the remedies at our command, they are most welcome; if they seem potential in successfully overcoming the destructive influences of pathogenic organisms introduced into the body, they are worthy of the most exhaustive investigation and careful consideration. Hence the recent recovery of a case of septicemia following the intravenous injection of a 1-5000 solution of formalin, reported by Dr. Barrows, of New York, was widely heralded, and enthusiasts have grown to hope there has been found an effective agent for combating this condition.

We are, therefore, glad to publish elsewhere in this number thus early a report of experiments made in this direction. From this report it would seem that a 1-5000 solution of formalin is not of sufficient strength when introduced into the circulation to very materially affect the development of the streptococcus bacillus. A 1-2000 solution has been found more efficacious in prolonging the life of rabbits inoculated with streptococci, yet a timely warning should be sounded against the careless use of so active an agent as formaldehyde when introduced into the vascular system. Almost fatal results followed the intravenous injection of a 1-2500 solution in a case reported since the first case announced by Dr. Barrows. The result of further experiments in this direction will be awaited with much interest.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

The Relationship of Angina Tonsillaris to Inflammations of the Vermiform Appendix.—WEBER (*Muenchener Medicinische Wochenschrift*, December 30, 1902).—Much attention has been devoted of late to a consideration of the relationship which appendicitis bears to certain acute constitutional diseases. The etiology of a number of heretofore obscure cases has been explained in this manner. The relationship of polyarthritides and influenza to appendicitis is now generally accepted. A few cases of appendicitis following closely or accompanying tonsillitis have also been reported. The author calls attention to three cases which were so closely associated with follicular tonsillitis that he thinks there can be no doubt as to their relationship. One case occurred seven days after the disappearance of the tonsillitis; one while the acute inflammation of the upper air passages still existed; while in the third, appendicitis and the tonsillitis occurred simultaneously. In many cases the same organism has been demonstrated in the tonsil and in the appendix. As to the route which such an infection would take there can be little doubt. The author believes that the bacteria are transmitted to the appendix through the gastro-intestinal tract. The richness of the appendicular mucous membrane in lymphoid tissue renders it very susceptible to infection. Then, too, there are not infrequently small masses in the appendix which cause slight injuries to the mucous membrane. In other words, there are present the three necessary factors—pathogenic germs, a point of entrance, and a most favorable soil.

Adrian's experiments upon rabbits, though interesting, are in no way conclusive when applied to human beings. He injected streptococci into the auricular veins of rabbits, and succeeded in bringing about inflammatory processes in the appendix in which the same bacteria were found.

Oxyuris Vermicularis as a Cause of Acute Appendicitis.—REMMSTEDT (*Deutsche Medicinische Wochenschrift*, No. 51, 1902) describes a case of appendicitis in which a large number of the oxyuris vermicularis were found in the appendix. The author attributes an etiologic significance to the presence of these parasites, and does not believe with many that such cases are purely coincident. He believes with Schiller and Metschnikoff that the stool should be carefully examined in cases of appendicitis, and that the finding of these parasites have a diagnostic as well as an etiologic significance.

The Leucocytes in Appendicitis.—COSTE (*Muenchener Medicinische Wochenschrift*, No. 49, 1902) presents an exhaustive consideration of the relationship of the leucocytes in the blood to inflammations of the appendix and the significance of leucocytosis. He considers that if in an acute appendicitis the number of leucocytes remains normal or is slightly increased, the process is limited to the appendix, or there is a serous exudate and the course of the disease will be favorable. It must be remembered, however, that even in these cases a perforation may take place, and purulent peritonitis may result. Such a development is noted rather through the severity of the symptoms and not through leucocytosis.

If the number of leucocytes reaches 22,000, one can count with certainty upon an abscess. In purulent peritonitis the number of leucocytes increases providing the organism has sufficient resistance against the infection. A sudden sinking of the number of leucocytes which had been previously rapidly increasing, is an ill omen.

A Case of Spindle-Shaped Dilatation of the Esophagus.—ZINSSER (*Muenchener Medicinische Wochenschrift*, December 30, 1902) reports a case which presented for a number of years clinical symptoms of stenosis and dilatation of the esophagus. A post-mortem revealed a spindle-shaped dilatation of the esophagus and hypertrophy of the walls of the same. The cardia appeared perfectly normal and was potent. The stomach, too, seemed in no way involved. The mucous membrane of the cardia was perfectly smooth, presenting no erosions, ulcers or scars. There was no evidence whatever of a valve formation. The author can explain the stenosis which resulted in such a dilatation of the esophagus only through a cardio-spasmus.

A Case of Pancreatic Cyst of Traumatic Origin—Transitory Diabetes.—PICHLER (*Wiener Medicinische Wochenschrift*, No. 52, 1902).—A hostler who had been kicked in the left hypochondriac and epigastric regions, developed about three weeks later a rapidly growing tumor.

The growth soon occupied the left hypogastric, epigastric and a portion of the left lumbar and umbilical regions. The upper border seemed to extend anteriorly to the sixth rib, the lower to the umbilicus, and the right to the right mammillary line. It was very slightly movable upon respiration; the stomach lay in front of the upper portion; the colon passed in front of the lower portion. Fluctuation was not demonstrable. At this time no sugar could be found in the urine.

Through surgical interference about five quarts of a dark, sanguinous fluid were evacuated. This left a cavity about as large as a man's head extending up into the left hypochondrium as far as the fourth costal cartilage.

During the following month, in spite of the decided decrease in the size of the cyst, the patient lost weight rapidly. Upon examination of the urine it was found to contain a considerable amount of sugar. This gradually disappeared, however, and within a short time was entirely absent even after a diet rich in carbohydrates.

Concerning the Observation of Intestinal Movements Through the Cystoscope.—LATZKO (*Wiener Klinische Wochenschrift*, No. 51, 1902) takes exceptions to the conclusions reached by Halbans, in an article published in No. 48 of the above publication. Halbans had occasion to make a cystoscopic examination in a patient upon whom a vaginal hysterectomy had been done two years previously. He noted peristaltic waves in the wall of the bladder, which he interpreted as intestinal waves transmitted to the bladder because of adhesions between the bladder and intestines.

Latzko considers this conclusion unjustified, maintaining that he had often noted such movements in cases in which he had no reason to suspect adhesions. He thinks it due to the normal anatomical relations of the bladder and intestines.

Investigations Concerning the Extent of the Proteolytic Power of the Gastric Contents of Healthy Individuals, as Well as Those with Gastric and Intestinal Disturbances, Showing the Comparative Values of the Hammerschlog's and Mett's Methods.—SCHOELEMMER (*Archiv fuer Verdauungs-Krankheiten*, Vol. viii, Parts 3, 4, 5), in a very exhaustive consideration of the subject stated above, concludes that it is not possible to show a fixed relation between the hydrochloric acid and pepsin production. More pepsin, however, is produced in cases of superacidity,

and in cases of gastritis anacida there seems to be a certain relationship between these two factors. Lab and pepsin do not go hand-in-hand. Lab and hydrochloric acid decrease together in gastritis anacida, and carcinoma pepsin is the last ferment to yield to injurious influences.

It is important therefore to determine the quantity of pepsin, for it gives not only a hint as to treatment, but its constant variation points to serious destructive processes in the stomach.

The author prefers Mett's method for the pepsin determination, for it approaches nearest the physiological digestive processes.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Trephining Skull for Headache.—SIEGEL (*Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie*, Band X, Heft 3 and 4).—The patient had suffered with headache since her earliest recollection. The skull showed quite a decided depression at one point where a pronounced swelling appeared whenever she lay down. As all other means of cure had been tried in vain an operation was resorted to and the depressed bone removed. After the operation all of the physical signs and symptoms of disease disappeared and in a short time the patient could again take up her housework. A year and a half later the girl was still perfectly well. The author's idea is that the depression must have resulted from some injury, although there was no history of anything of the kind. At the same time he considers the swelling to be due to the escape of lymph into the diseased area. He has gathered from the literature twelve similar cases, all of which were cured by removing the depressed bone. In most instances it seems to him best to close the bone opening again with the button which has been removed. The symptoms in such cases are always referable to the depressed area.

Pulmonary Embolism After Fracture of the Thigh.—GAYET (*Archives Provinciales de Chirurgie*, Tome xi, No. 11).—A correct understanding of the principle underlying this article may enable one to explain a death which might otherwise have remained unclear, hence it is reproduced in part. A large cask of wine rolled over the individual in question and fractured his thigh. All went well till the seventeenth day after the accident, when febrile symptoms appeared without any apparent cause. Five days later the patient suddenly became asphyxiated, dying in a few minutes. The autopsy revealed a thrombus filling the iliac artery on the affected side, from which a portion was seen to have broken off, and in the pulmonary artery of the left side was caught an embolus which appeared to conform to the outlines of the iliac thrombus. Now it is clear that the fever was due to a phlebitis; and the author blames himself for not having immobilized the leg and thus prevented the separation of a part of the clot, with its fatal consequences.

The Pathology and Therapeutics of Intestinal Stenosis.—BAYER (*Wuerzburger Abhandlungen aus dem Gesamtgebiet der Praktischen Medizin*, Band ii, Heft. 6).—This is an interesting article from the practical standpoint, for though it contains little or nothing that is original, still the ripe experience of the author enables him to bring out numerous points that will be found of value. In these few pages one has a sort of small text-book, since the author takes up systematically the whole subject, even down to anus imperforatus. The remarks on the diag-

nosis of stenosis due to peritoneal adhesions are of especial value to the surgeon. He is of the opinion that recent adhesions, especially in the young, can be stretched by baths, massage, diet, and the like. Small abscesses may persist for months or years among them without being emptied. Bayer had cases in which the appendix stretched down to cover an appendix after perforation, caused stenosis of a loop of small bowel. In one of his most interesting cases a man forcibly replaced a prolapsed hemorrhoidal tumor, and in so doing set free an embolus which divided and lodged in the right pulmonary artery and the superior mesenteric artery, producing paralytic ileus, as a matter of course.

Tennis Arm.—CLADO (*La Progresse Medical*, November 1, 1902).—This modern affection is known only in the case of the male, and is experienced only by the strongest players, coming on suddenly after a particularly severe effort. The symptoms of most prominence are pain, functional impotence and swelling. The duration may be a month to a year, and the treatment consists in absolute rest for the affected part. In a prognostic way, it may be said that those who have once experienced the malady are particularly likely to a revisitation of it under the proper exciting circumstances.

Anesthesin in the Treatment of Wounds.—LENGEMANN (*Centralblatt fuer Chirurgie*, No. 22, 1902).—This author, working in the celebrated Mikulicz clinic at Breslau, puts forth some interesting ideas regarding this rather modern drug. It is a reliable local anesthetic, and at the same time without any irritative effect. The powder, when sprinkled over a granulating surface, prevents the pain usually occasioned by the use of silver nitrate. However, a sufficient time must always be allowed to elapse before the full effect of the drug can be seen. It is very useful in treating a burn; here the pain will disappear if the powder be used before a dressing is applied. The drug has a variety of uses, of which the above merely serve as examples.

Actinomycosis Hominis in America, with Report of Six Cases.—ERVING (*Bulletin of the Johns Hopkins Hospital*, November, 1902).—Here are brought out several interesting facts besides the details of the cases which were up to date unreported. This makes one hundred in American literature, of which seventy-two occurred in males. Most of those affected had handled grain and live-stock very much, so were thus exposed to the infection. Several say that they were in the habit of chewing straws, which is surely of interest. There is some uncertainty as to whether or not iodide of potassium is of benefit in connection with the surgical treatment of such cases.

A New Method of Sterilizing and Preserving Cat-Gut.—CLAUDIUS (*Deutsche Zeitschrift fuer Chirurgie*, Band lxiv, p. 489).—The most simple and altogether admirable method here described deserves to be made well known. The author's idea is to soak the gut for a week in the following solution (after which it is ready for use, and may be kept in the same receptacle): Iodine, one part; iodide of potassium, one part; water, one hundred parts. Laboratory and clinical tests have proven such material to be aseptic, while the strength remains unimpaired and the iodine does not irritate the tissues. Excess of iodine is washed out for a few moments before using, any aseptic solution serving this purpose. The gut is black in color, and possesses a consistency unlike that imparted by any other form of preparation; it is not stiff, slippery or swollen; but, best of all, knots do not slip any more than is the case with silk.

The Heredity of Synovial Ganglion.—FERE (*Revue de Chirurgie*, December, 1903).—The author commences by referring to the hereditary tendency which

has been noted in the matter of congenital dislocation as well as in many other developmental joint affections. One family has been observed by Fere which certainly was interesting from the fact that it presented a decided tendency to that "diathese kystique" which is the subject of this review. A mother who had a ganglion bore two daughters, each of whom had one or more; the first daughter bore three children, of whom two were afflicted by ganglia. The second daughter above mentioned bore four children, of whom two presented ganglia. Girls are more frequently affected than boys; and the malady is to be attributed to the fact that the subjects are born with tendon sheathes which are lacking in resistance at certain points.

Painstaking After-Treatment of Septic Operations.—KUETTNER (*Beitraege zur Klinischen Chirurgie*, Band xxxv, Heft 2).—This eminently practical article deals with the various ways in which the surgeon may save his patient the physical suffering coincident upon changing the dressings. This is greatly facilitated in cases where a rubber drain has been used instead of gauze at the operation. A tampon may be removed painlessly if it only be inserted in a Mikulicz bag instead of the usual way. Moreover, the original dressing should in every case be allowed to lie undisturbed as long as possible. Since pure carbolic acid has come into such general use in the primary treatment of septic wounds, they are found to be much less painful during the healing process. The wet dressing is far more comfortable than the dry, as will be attested by any patient. To prevent the appearance of boils and eczema around a suppurating wound, it is advised that the skin be kept smeared with some salve. The use of retractors makes it much easier to reintroduce a gauze pack, hence the patient is spared in this again. [The reviewer begs leave to make one further suggestion which has been found of great service, viz.: that every sensitive granulating surface be covered with a thin sheet of rubber before the gauze is applied. The excreta will drain out under it and be taken up, and a dressing thus put on can never stick.]

The Role Played by the Angulated Colon in Intestinal Occlusion.—WALTHER (*Bulletins et Memoires de la Societe Chirurgie de Paris*, Tome xxviii, No. 25).—Walther operated upon a patient afflicted with chronic obstruction in the fecal current, to find that a shrunken omentum which was adherent to the site of the appendix, had drawn the mesial portion of the transverse colon down so as to cause angulation with partial occlusion at the site. The patient recovered perfect health after this operation. He writes that he has commonly seen the stomach so much displaced in this way as to cause marked symptoms.

The Schleich Treatment of Wounds.—BOCKHEIMER (*Volkman's Sammlung Klinischer Vortraege*, No. 344).—In this article is expressed the very unfavorable opinion which the personnel of the Bergmann clinic seem to have formed of the pastes, etc., proposed by the above named author. The pulvis serosus has no advantage over dry gauze, and is more difficult to remove. Glutol is in no wise superior to many other salves which are far cheaper. On the other hand, glutol-serum does positive harm by holding back the excreta of an infected wound, when the same would be absorbed by a gauze bandage properly applied. This last named does not render a wound free from germs by producing formol, as the inventor has claimed.

Removal of an Upholsterer's Tack from the Right Bronchus.—BROKAW (*Annals of Surgery*, December, 1902).—It is a pleasure to chronicle, as coming from our own city, a feat which only the most advanced diagnostic acumen as well as the boldest operative technique make possible. The patient was in this instance

a girl of eight, who was brought to Dr. Brokaw almost a month after the accident had happened. He located the tack with the x-ray, and operated twice through a tracheotomy opening. The first time nothing was accomplished, but upon a second trial the tack was grasped through an endoscopic tube and withdrawn. Considerable laceration of the mucosa occurred, but the patient made an uneventful recovery.

The Recurrence of Carcinoma.—v. KAHLDEN (*Archiv (Langenbeck) fuer Klinische Chirurgie*, Band lxxviii, Heft. 2).—Of first importance are portions of the tumor which have been left behind in an incomplete operation. Then a few cancer cells can have lodged, at the time of operation, in a lymph vessel some distance from the original site, leaving a long stretch of healthy vessels between the two. Next come the possibility of inoculation and contiguity, both of which are possible. If further, the growth be multi-centric, it is easily explained how the growth will recur if one of these centers of growth be left behind. As these do not all develop at the same time, this form of growth can be termed *pleuritemporal* as well. A sort of reactive encapsulation tend to limit the rapidity of some carcinomata, a matter which may be of vast importance. Fortunately, not all cancer cells which are left behind in an operation develop further, else the success of surgery would be more limited. Again, we well know that metastatic cancer masses simply undergo degeneration without doing the slightest harm. For late recurrences, as late as five to ten years after the original operation, we have only the pleuricentric and the pleuritemporal forms of growth as an explanation.

Actinomycotic Appendicitis.—THEVENOT (*Gazette des Hopitaux*, November 18, 1902).—This article is of value as calling to mind the possibility of this form of the disease complicating the diagnostic picture. The patient under discussion was an hostler and in the habit of chewing straw and grain, hence the source of the infection. Upon the appearance of characteristic symptoms his appendix was removed, but the wound never healed while the mass in the abdomen increased. Thereupon the true nature of the infection was first suspected and a curettement made which led to a diagnosis after the microscopic examination had been made.

Acute Perityphlitis.—MOSZKOWICZ (*Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie*, Band x, Heft 5).—This instructive article is a report of the last ten years' work in this field at the Rudolfinerhaus in Vienna; the methods employed and the results attained do not differ materially from those of other first-class hospitals, hence, to economize space, our review will concern itself with but a few strikingly new points. It is of undoubted value to us to know that the author has found that the collapse in these cases can be successfully combated by hot baths; two patients recovered after baths of six hours' duration (40° C.), when they had reached the cyanotic condition in which cholera victims are seen during the late stages of the disease. Another point in the after-treatment of these cases which has saved life, has been the establishment of a cecal fistula, in cases there has been persistent interference with the intestinal current.

Perforating Wound of the Abdomen, Hernia of the Pancreas and Injury of the Stomach.—FONTOYNONT (*Archives Provinciales de Chirurgie*, No. 9, 1902).—The patient was attacked by one of his companions and stabbed in the abdomen with a very long knife. When seen by the surgeon, some hours later, one of the internal organs protruded from the wound, and was plainly strangulated by the latter. He was placed upon the operating table and the wound enlarged, when, to the surprise of the operator, no intestinal perforation was to be found. The

organ above mentioned as protruding from the wound was found to be the pancreas, which was replaced, and the wound packed with gauze, whereupon the patient did very well and made a recovery which was interrupted only by the fact that stomach contents poured out of the wound when the gauze pack was removed. About three months later the individual died of tuberculosis of the lungs and the post-mortem disclosed a cut in the posterior wall of the stomach around which the peritoneum was adherent. The author has found but six cases in the literature in which the pancreas protruded from a wound.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

Mesotan—An Antirheumatic for External Use.—TH. FLORET (*Deutsche Medic. Wochenschr.*, 1902, No. 42), H. ROEDER (*Muenchener Medic. Wochenschr.*, No. 50, 1902).—The value of the external use of salicylic acid in acute articular rheumatism has long been recognized. Bourget in France and v. Ziemssen in Germany first obtained good results by means of the local use of salicylic acid ointments. In America the external use of oil of wintergreen was first recognized as superior to that of salicylic acid, and is still in great favor. Its great drawback, however, is its penetrating odor, as well as the dermatitis it often produces; the European chemists have accordingly for some time been searching for an efficient substitute. This the Elberfeld Farbenfabriken now claim to offer the medical profession in mesotan, a methoxymethylester of salicylic acid, and, therefore, closely related to oil of wintergreen, of which methylsalicylat forms over ninety per cent. Mesotan is a clear, yellowish, oily liquid with a faint aromatic odor. It is easily miscible with alcohol, ether, chloroform and oils, but nearly insoluble in water. It is readily absorbed through the skin, and is thereupon split up by the alkaline sera of the body. Soon after its application the salicylic reaction may be obtained in the urine.

According to Floret, the external use of mesotan in rheumatic joint or muscle affections is so promptly and certainly curative, that it may well be used as a diagnostic measure when the rheumatic nature of such an affection seems doubtful. Its action is most striking in acute muscular rheumatism, in which a single application often suffices for a cure. In acute articular rheumatism, even in severe multiple affections with high fever, the duration of the attack is greatly shortened and the pain almost instantly relieved. It has been found useful also in rheumatic anginas, pleurisy, etc., but is quite inactive in traumatic or gonorrheal joint affections or in neuralgias.

The drug is best used mixed with an equal quantity of olive oil. A small quantity of this mixture is rubbed into the affected joint; less than a teaspoonful usually suffices. One to three applications, according to the severity of the attack, are made daily; the joints do not need to be covered with a dressing, as when using oil of wintergreen.

Roeder is particularly enthusiastic regarding the efficacy of mesotan in subacute and chronic arthritis. He reports a number of cases, of which the following will serve as specimens:

CASE 22.—Painful swelling of the right great toe for four months. Skin reddened over the affected joint, walking difficult. A single application was followed by a marked improvement that fairly astounded the patient.

CASE 24.—Treated for eight weeks as gout. After a course of aspirin 5j daily, patient was just able to walk with the aid of a cane. All the joints of

both feet were swollen and painful, the skin over them reddened. After a single application of mesotan he was able to walk with comparative comfort; in eight days he was well.

Cases of true arthritis deformans showed little or no improvement under the influence of mesotan.

The above results seem too good to be true, and it will be safe to maintain a somewhat skeptical attitude towards them. Nevertheless, the drug clearly merits a trial.

Ergotin in Pneumonia.—SCHOULL (*Journ. des Pract.*, 1902, No. 36).—Schoull in Tunis reports his results with ergotin in pneumonia. As soon as the diagnosis is made he prescribes:

Rx	Ergotini.....	1.5
	Aqua.....	170.0

and orders one tablespoonful of this solution given every two hours. His results have been so uniformly good that he usually finds no other medication necessary.

In this country the administration of ergotin in pneumonia has been customary for many years. Wells (of New York) maintains that by this means pneumonia may be aborted in half the cases. Many other clinicians have found that defervescence occurs sooner under the influence of ergotin than would otherwise be the case. As early as 1891 Fiessenger reported fifty cases of pneumonia treated with ergotin, with strikingly good results.

The Olive Oil Treatment of Gastric Ulcer.—WALKO (*Centralbl. f. Inn.-Med.*, 1902, No. 45).—Olive oil, as is well known, when taken into the stomach diminishes the secretion of hydrochloric acid, and has been found useful in cases of hyperacidity. Walko strongly advocates its use in gastric ulcer. The patients are put to bed, are fed per rectum, but are given olive oil by mouth three times daily. The initial dose is a tablespoonful, which, however, if the patient tolerates the oil, is gradually increased to three tablespoonfuls. After swallowing the oil the mouth is rinsed out with some well tasting solution. Where its administration gives rise to much nausea, the oil may be given through the stomach-tube. In such case, three to seven ounces are introduced in the form of a thorough emulsion. After the more severe symptoms of ulcer have disappeared, Walko carefully and gradually returns to feeding by the mouth, but for another two weeks also continues the administration of the oil. According to his view, gastric ulcer heals decidedly more quickly under this regime than under any other.

Another "Cure for Morphinism."—B. FISCHER and B. WAGNER (*Muench. Med. Wochenschr.*, 1902, No. 57).—In July of last year one of the above demonstrated, by means of an analysis, that the medicament "anti-morphin," warranted to cure the morphine habit, and sold at an extravagant price, consisted chiefly of morphine itself.

They now publish the results of their examination of "nicolicin," asserted to have the same therapeutic action. It is a clear amber liquid, selling at about the rate of one dollar per ounce. On the label is what purports to be the formula, consisting of twelve ingredients, ranging from tr. colombo to sherry wine. An analysis, however, the procedure of which is described in some detail, proved that the fluid contained three per cent. of morphine. It required only the addition of a little ammonia to the medicament to produce a profuse precipitate of beautiful morphine crystals. It seemed worth while to relate the result of this analysis in these columns, as it is not impossible that the much-advertised preparation may find its way across the Atlantic.

A New Method of Treating Erysipelas.—S. TREGUBOW (*Deutsche Med. Wochenschr.*, 1902, No. 27).—The writer has had good results in the treatment of erysipelas, by subjecting the affected area to a burn of the first degree. He accomplishes this by setting fire to a bit of absorbent cotton soaked in alcohol, and holding the burning mass one centimeter from the skin. This treatment is repeated several times daily for two days, and is said distinctly to shorten the course of the disease.

Yeast as a Therapeutic Agent.—H. PASCHKIS (*Wiener Klin. Wochenschr.*, 1902, No. 31).—The writer is convinced that both brewer's yeast, as well as the ordinary compressed yeast, are valuable agents in the treatment of furunculosis, acne and severe folliculitis. Although not a specific in the sense in which mercury is a specific for syphilis or quinine for malaria, yeast is still a therapeutic agent of considerable certainty and rapidity of action. No untoward results of any significance have ever followed its administration. It is given in doses of one-half to one teaspoonful in carbonated water, beer or milk.

[Yeast has for some time found a rather wide-spread use in this country, especially for diabetes. Of late a considerable improvement in its manufacture for medicinal purposes has been effected in Germany. It seems that the active agent is the ferment in the yeast cell: the living yeast cell as such only detracts from the activity of the drug. Moreover, the large amount of water present even in compressed yeast adds unnecessarily to its bulk as a drug. Drying the yeast in vacuo takes out most of the water, but does not kill the cells; drying it at a high temperature does both, but also (at least in part) destroys the ferment. The new process consists in treating the yeast with acetone and then driving off the latter. The resulting so-called acetone yeast is a light, dry powder, free from living yeast-cells, and, as regards its fermentative power, very much stronger than compressed yeast. If there is anything in yeast medication, this form would seem to promise more than any other. It has not yet been put on the American market.]

Rodagen.—Some months ago the attempts made in Germany to treat exophthalmic goitre by means of the milk of thyroidectomized goats were discussed in this department of the INTERSTATE MEDICAL JOURNAL at some length. What purports to be the active principle of such milk has recently been isolated and put upon the market under the name "rodagen." It is said to keep indefinitely. The dose is 5-10 g. daily.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Technic and Indications of the Vaginal Cesarean Section.—E. BUMM (*Centralbl. f. Gynaek.*, 1902, No. 52).—The author performs this operation in the following manner, which is slightly modified from the operation originally invented by Dührssen: Cervix is pulled down by means of two volsella. Median incision, about 5-7 cm. long, reaching from the anterior fornix to the anterior lip of the cervix, is made. Bladder is separated from cervix. Now the cervix is split in the median line as high as the bladder is pushed off. Both edges of the upper end of incision are caught, like in vaginal morcellation of the uterus. In this way a higher point of the lower uterine segment is brought into view. Bladder is pushed further up, and median incision continued into the substance of the anterior uterine wall. This maneuver is repeated until the uterus is split for

about 8 to 12 cm. without opening the peritoneal cavity. Such an incision permits introducing the hand, performing version and extracting the child. Two layers of interrupted catgut sutures close the incision of the uterine and vaginal walls. Hemorrhage is comparatively slight if the bladder is pushed off the uterus within the right layer and the uterus is continually pulled down well into the vagina. The author performed this operation thirteen times. The time consumed from the first incision until the extraction of the fetus was effected, was between five and ten minutes, in several instances but four minutes. The closure of the wounds took about ten minutes. The writer dissuades forcible expression of the placenta. In a case in which a child of 3,250 grams was extracted the length of the uterine incision was but 7 cm. Of these thirteen operated cases, one ended fatally. It was an eclamptic patient brought to the clinic in deep coma. She died in another eclamptic seizure.

While the main indication for this operation at present is carcinoma of the cervix, the author hopes that it will soon take its proper place in the treatment of eclampsia.

Sectio Cesarea Vaginalis in Eighth Month of Pregnancy.—KALLMORGEN (*Centr. fuer Gyn.*, 1902, No. 48).—The writer performed this operation successfully in a patient, thirty-two years old, suffering from a carcinoma of the anterior lip of the cervix. First the large ulcerated mass was removed with the curette and the wound burned out with the paquelin; then the anterior wall of the uterus was split, the bladder being pushed back, and twins extracted. The operation was concluded by extirpation of the uterus per vaginam. The babies died soon afterward; the mother made an uninterrupted recovery.

The writer advises to postpone ligating the uterine arteries until the child has been extracted, because the reverse procedure considerably endangers the life of the fetus.

The Influence of Variola on Pregnancy.—H. M. BRASSART (*L'Echo Medical du Nord.*; rev. *J'l of Obstetr. of Brit. Emp.*, January, 1903).—The writer observed twenty-nine cases of variola complicated by pregnancy. Of these twenty-nine patients, one suffered from the varioloid form, and the pregnancy continued its natural course. The statistics quoted show that this is the usual event. Nineteen suffered from the discrete variety; of these, eleven recovered without symptoms of abortion; in one, abortion threatened, but did not take place. Four were delivered at full term. These patients all recovered, but one of the children developed variola on the eighth day and died. In the remaining three cases abortion occurred, one of them dying of pyemia one month after the expulsion of the fetus. The author concludes that in discrete small-pox the prognosis is not materially affected by pregnancy, but that abortion is to be regarded as a grave accident. Of confluent cases there were three: one recovered, the pregnancy being uninterrupted; two died. In hemorrhagic small-pox abortion and death occur almost without exception. Six of the cases presented this form. In each of them abortion took place, and the termination was fatal. Pregnancy does not seem to predispose to the infection or the development of a more severe form of variola. Abortion darkens the prognosis, and makes the patient more liable to septic infection during the puerperium, particularly if abortion occurs during the stage of suppuration. Abortion may transform a mild case of variola into a rapidly fatal hemorrhagic form.

On the Post-operative Retention of Urine.—FRED TAUSSIG (*Muenchn. Medic. Wochens.*, 1902, No. 40).—The writer's conclusions are based upon a study of 282 gynecological operations. While after vaginal hysterectomy retention of urine occurred in 2 per cent., and after abdominal hysterectomy in 3.4 per cent.,

the radical extirpation of the cancerous uterus after the method of Wertheim led to retention for a period of more than six days in 64 per cent. In this operation the regional lymph glands and both parametria are thoroughly eradicated with the uterus and its appendages. Beyond doubt, the extirpation of the parametria produces considerable disturbance in the innervation of the bladder on account of the removal of a great number of ganglions of the bladder. The retention in its turn is the predisposing factor in the development of the cystitis, which is an almost typical occurrence in the Wertheim operation for cancer of the uterus. The infection is either carried into the bladder by means of the catheter, even if all precautions are taken, or is brought about by transgression of bacteria from the intestines directly through the bladder wall. The writer tried to avoid retention by the use of the faradic current in the bladder and dilatation of the urethra. The results were not satisfactory. In the treatment of the severe type of cystitis the best results were obtained by irrigation of the bladder with solutions of different silver preparations. The prognosis of this post-operative cystitis is, however, favorable, slight inflammations as a rule subsiding within one or two weeks, the more severe forms within three or four weeks.

A Study of the So-called Disinfecting Soaps, with Special Consideration of the Creolin-Soaps.—TONZIG (*Wien. Klin. Rundschau*, 1902, Nos. 7 and 8).—Nyland, Curzio and Serafini have found that the disinfecting property of soap is reduced by the addition of carbolic acid or bichloride of mercury. The same fact has now been established for the soaplike disinfectants, lysol and creolin. Based upon careful investigations, Tonzig concludes that all alkaline soaps possess disinfectant properties, their efficacy being the greater the less water they contain. If disinfectants are added, even the soaplike lysol and creolin, their action is impaired. Such mixtures have less disinfecting power than either of the components *per se*.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Cerebro-Spinal Fever.—GRIFFITH (*Journal American Medical Association*, January 17, 1903) reports illustrative cases of various types of cerebro-spinal fever, using this term instead of cerebro-spinal meningitis to emphasize the fact that the disease is a specific infectious one, occurring usually in epidemics, and having a certain definite though varying group of symptoms. He does not consider it as certain that the affection differs in any way from cerebro-spinal meningitis not of an epidemic nature. He recognizes the following forms:

(1) *Ordinary*.—Prodromes absent or indefinite. Attack begins with headache, vomiting, fever, and very often convulsions. Very severe stiffness and pain in neck and back develop. Headache, photophobia and other evidences of meningitis marked. Marked flexion of arms and legs. Decided general hyperesthesia. Delirium common. Bowels constipated, abdomen retracted. Herpes is frequently seen and petechiæ may develop.

(2) *Malignant Form*.—Disease begins with extreme suddenness, and symptoms appear at once in most intense way. Collapse with coma common, general convulsions may supervene. Death occurs in a few hours.

(3) *Mild Form*.—Patient may be so little ill that he hardly needs to go to bed. There is severe headache, nausea, less often vomiting, and little or no fever. The neck may be slightly stiff. The diagnosis is almost impossible in sporadic cases.

(4) *Abortive Form*.—Begins as the ordinary form, but recovery takes place in two or three days.

(5) *Intermittent Form*.—This exhibits intermissions in the symptoms, which suggest malaria, occurring without definite regularity.

(6) *Chronic Form*.—These cases may drag on for weeks. There is vomiting, irregular fever, temporary improvement followed by relapses, and progressive and extreme emaciation.

Septic Endocarditis.—ADAMS (*Archives of Pediatrics*, December, 1902) has collected all reported cases of septic endocarditis occurring under fourteen years of age. They number forty-seven. Of these, four, including the one now reported in detail by Adams, terminated in recovery.

It would thus appear that septic endocarditis is comparatively rare in childhood. It was formerly held that the two forms of acute endocarditis, simple and infective (or septic), were absolutely distinct, but the modern trend of opinion inclines to the view that the two conditions differ in degree but not in kind. While micro-organisms are almost always found in the vegetations in the valves in infective endocarditis, they are frequently found in the so-called simple variety; indeed, the same species of bacteria may be found in both. The germs most frequently found are the staphylococcus, the streptococcus and the pneumococcus.

The following types are recognized: (a) primary (rare), (b) as a complication of septic disease, (c) as a complication of pneumonia or meningitis, (d) as a mixed infection due to septic organisms secondary to the acute infectious fevers or secondary to rheumatic endocarditis or sclerotic condition of the valves.

Typhoid Fever and Enteritis in the Nursling.—NOBECOURT (*Rev. Mens. des Mal. de l'Enf.*, January, 1903) has collected from the literature 1,826 cases of typhoid occurring under the age of fifteen. Of these, 33 (1.8 per cent.) occurred under two years of age. The prognosis of typhoid in very early life he considers grave, because of the liability of complicating entero-colitis. He reports in detail a fatal case, where there was at first marked improvement until the secondary enteritis, as shown by the general symptoms, and by the very abundant green stools, set in. In his opinion, this complication of a distinct secondary enteritis makes the prognosis so grave, because of the great difficulty (almost impossibility) of adequately nourishing the infant. In the case reported, no nourishment could be tolerated. He believes that the high mortality of typhoid in very early life, which he places at almost 50 per cent., is thus to be explained.

[At the last meeting of the American Medical Association, a case of typhoid in an infant of six months was reported. In the discussion which followed (see *Journal American Medical Association*, January 24, 1903), J. P. C. Griffith referred to the statistics obtained by Ostheimer and himself recently with reference to this subject. They found 418 cases of typhoid occurring in children of two and one-half years and under. One hundred and eighty cases occurred in the first year of life. Since the introduction of the Widal test, it has been demonstrated that typhoid is not as rare in very early life as had previously been supposed.—ED.]

Infantile Scurvy and Sterilized Milk.—NETTER (*Rev. Mens. des Mal. de l'Enf.*, December, 1902) concludes that

(1) Infantile scurvy is an affection distinct from rickets. The two conditions may coincide but they are due to different causes, and are not amenable to the same treatment.

(2) The disease not infrequently is due solely to the exclusive use of sterilized milk.

(3) The chances for the production of scurvy are greater the higher the

temperature to which the milk is heated, and the longer the milk is subjected to such temperature. Pasteurization is thus less apt to produce scurvy than sterilization. Reheating of milk already pasteurized to the boiling point is thus to be avoided.

(4) Fresh cow's milk contains a notable proportion of citric acid (.1 per cent.) in the form of the neutral amorphous citrate of calcium. Under the influence of heat this citrate is changed more or less to the crystalline form, which, being more insoluble, is precipitated. The antiscorbutic power of citric acid is well known, and the antiscorbutic power of fresh milk is probably largely or wholly due to the citrates. Sterilization of the milk, which reduces the citrate so largely, takes from the milk its antiscorbutic power.

(5) These facts should be borne in mind in the cases of children nourished on sterilized milk, particularly if they show signs of nutritional disturbance. The substitution of raw milk, the addition of fruit juices may in such cases prevent the development of scurvy.

Enlargement of Peripheral Lymph Glands in Infancy.—BAER (*Jahrbuch fuer Kinderheilk.*, December, 1902) examined 350 infants, all ambulatory cases, with reference to this point.

Without exception some of the lymph glands were palpable in every case, and as a result he questions the propriety of speaking of "enlarged glands" whenever they are palpable. It has been noted that as a result of gastro-enteric disease the lymph glands are often enlarged. The author found many cases in which an antecedent disease of this sort could be excluded where the cervical, axillary, inguinal glands were enlarged. In cases of severe gastro-enteric disease the inguinal glands were, however, almost always enlarged.

Cases of rickets, and of hereditary syphilis, showed surprisingly little enlargement. Many authors have noted the fact that the adenitis of hereditary lues is not nearly as marked as that resulting from the acquired form in adult life.

While it is true that localized skin lesions may produce adenitis of the corresponding region, the author found that this was by no means constant, even in chronic aggravated cases.

In order to test the question still further, B. examined twenty-five newly born infants ranging in age from ten hours to five days. In all of these infants the axillary glands were palpable, sometimes markedly enlarged, and in some cases other glands (cervical, inguinal) were palpable.

B. concludes that while a cause for enlargement of peripheral lymph glands in infancy can often be found, in many cases none can be demonstrated, and he therefore believes that such enlargement need not necessarily be pathological, or presuppose the existence of an antecedent disease.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

On Epilepsy.—BIRO (*Deutsche Zeitschr. fuer Nervenheilk.*, Vol. 23, 1902, Nos. 1 and 2).—This article attempts to sum up the knowledge that we have on epilepsy, based upon a careful study of three hundred and six cases of this disease, all of which the author has had under his personal care for nine years. For this reason alone the conclusions as set forth are worthy of some consideration. The material is treated under the following six divisions: 1. Etiology, especially

the role which psychical and physical injuries play. Reflex epilepsy. The relation of epilepsy to infectious diseases, to diseases of metabolism, alcoholism and heredity. 2. The immediate prodromata of the disease and their relation to the kind and severity of the attack. 3. The relation of different symptoms to each other, especially that of bladder disturbance and tongue biting to other phenomena. 4. The condition of consciousness during the attack, and the state of the pupils. 5. Some unusual post-epileptic phenomena which are usually considered as *epilepsia procursiva* (six cases). 6. The psychical condition of the patients. Statistical: The conclusions here reached in regard to the statistics of epilepsy gain in importance when it is noted that the material here under consideration consists of a greater number of cases than any other hitherto reported, with the exception of Hasse, whose material consisted of nine hundred and ninety-five cases. The proportion of men to women was 55 per cent. in favor of men, while 60 per cent. were in the first twenty years of life. Etiology: In spite of the great number of cases of epilepsy observed, its etiology is still unknown. It seems altogether probable that many factors are at work to produce the disease. The sum of them cause in the main one clinical manifestation, but no unified etiology. Jacksonian epilepsy is commonly separated into a class by itself from the standpoint of etiology by most writers, but even here only a relatively small proportion of cases can be given a direct traumatic origin, 40 per cent. in this study. Psychical shock is an important factor, as well as the repetition of seemingly slight injuries to the head and nervous system. Alcohol and syphilis have a certain importance in the causation of epilepsy, but it is probable that both have been given too important a place as causative factors. Alcohol might be regarded as a favoring element, but not of sufficient moment to establish alcoholic epilepsy as a separate type of the disease, as has been suggested by some writers. The old theory, that children born from a coitus, in which one or both parents were intoxicated, is still disputed, with the tendency toward skepticism. Alcoholism in the parents is to be regarded as an evidence of a certain neuropathic tendency which may be transmitted to the offspring. The most certain of all etiological elements is that of heredity, the importance of which, however, has been likewise exaggerated by many authors. The percentage varies very widely; Gower's 35 per cent., Tissot's 9 per cent., Leuret and Delasiauve 10 per cent., Berger 32 per cent. Six per cent. of this series shows a direct heredity, and 16 per cent. when all other hereditary data were taken into consideration. If to this is added alcoholism, the percentage is increased to 34 per cent. Symptomatology: An aura was found in 28 per cent. of the cases. This low percentage is accounted for by the fact that the patients here studied were, as a rule, of a low grade of intelligence, and slight auras might easily be overlooked by them. It is noted that the severest attacks are frequently unaccompanied by an aura, whereas the slightest attacks either have them, or the aura itself forms the attack. An aura is not necessarily the precursor of the attack; in only one-fifth of the cases did an attack always follow the aura. Attacks of petit mal were found in only 3 per cent. of the cases. Consciousness may be retained and still the attack be one of true epilepsy. There is as yet considerable difference in opinion in regard to the state of the pupils; Steffen asserts that during the attack the pupils may react normally, and Karplus and Westphal have observed cases of hysteria in which the pupils did not react to light. Biro has not been able to confirm the above observation, but believes that a reactionless pupil is a strong proof of the presence of epilepsy, of course in combination with other symptoms. The lack of stability in the size of the pupils during the attack is probably due to the fact that the iris muscle takes part in the general clonic convulsion. Vomiting during an attack occurred in 2 per cent. of the cases, so that it cannot be said to speak against the diagnosis of epilepsy. However, the frequent occurrence of vomiting should always suggest the possibility of an organic lesion, especially of Jacksonian epilepsy, where vomiting occurs three times as frequently as in the

idiopathic variety. Biting of the tongue occurred in 14 per cent. of the cases, and bore no relation to the severity of the attack. In the very lightest form of attack the tongue was frequently most severely bitten. In respect to the mental state of epilepsy, the author believes that in the majority of cases, during the free interval, little deviation from the normal can be noticed; in other cases, however, a sort of mental torpor, dullness in expression and features and slowness in mental action can be observed. Althaus believes that 64.4 per cent. of all epileptics are mentally affected; Biro found only 14 per cent. of his cases with distinct mental symptoms, more than half of whom showed a weakness in memory. Diagnosis: The most important single factor which must always arouse the suspicion of the presence of epilepsy is the frequent occurrence of periods of unconsciousness of short duration. Without this, in the great majority of cases at least, and without their periodic occurrence, the diagnosis of epilepsy is not very likely. All the other factors which characterize epilepsy are worthy of notice, especially if the attack itself cannot be observed, and when such an attack of unconsciousness can be definitely stated not to be a fainting attack. When such an attack occurs in an individual who, physically, is perfectly normal, and who shows no evidence of disease which might cause attacks of faintness, and when they do not occur after physical or mental exhaustion, but in a state of perfect health and under the most varied circumstances, then there must be always a strong suspicion that they are due to epilepsy. When the physician is present during an attack, the condition of the pupils, involuntary micturition (40 per cent. of all cases), biting of the tongue, are important evidences of epilepsy. It must be remembered that the attacks of vertigo which occur in arterial sclerosis, and in certain senile conditions, may be accompanied by reactionless pupils. From a differential diagnostic point of view are to be considered convulsions depending upon organic lesions, tumor gumma, pachymeningitis, progressive paralysis, brain abscess, multiple sclerosis, poisoning and hysteria. Pathology: There is little that is positively known. In the majority of cases no abnormality in the nervous system has been found. From this negative finding arose the theory of the chemical and trophic nature of the disease. The occurrence of epilepsy after infectious diseases, such as scarlet fever, typhoid fever, measles, whooping-cough, etc., lead to the theory of the toxic origin of the disease, caused by the presence of bacteria. This view is held by Marie. In some cases changes have been found in the brain and cord, but there is so much doubt in regard to their nature, whether primary or secondary, that no reliance can be placed upon them. Treatment: Everything which tends to calm the nervous system is to be recommended, while the contrary is to be avoided. In cases without a definite etiology, and for that reason of little importance, where the attacks occur not oftener than once in two months, hygienic and dietetic measures suffice to control the attacks. Surgical interference should be advised only in recent cases, where the origin of the epilepsy is found to be due to a cortical lesion limited in extent. Bromide is the only reliable drug. The author uses a mixture of potassium bromide 3 gr., sodium bromide 1.5 gr., ammonium bromide, 1.5 gr. per day. The danger of bromidism is very slight. When the ordinary bromide treatment is not productive of good results, the opium-bromide treatment of Fleesig can be tried. The author has experimented some with the salt starvation method of Toulouse and Richet with some measure of success.

The Parasyphilitic Affections. The Curability of Tabes and General Paralysis by Intense Mercurial Treatment.—LEREDDE. Translated by M. Ostheimer, M. D. (*Phila. Med. Jour.*, January 10, 1903).—This paper, which has attracted some attention and a great deal of criticism, begins in the following way: "After having cured a case of tabes with mercurial treatment and after thorough researches upon the parasyphilitic affections and upon cases of recovery from tabes and general paralysis, I have become absolutely convinced that, in syphilitic

patients, these diseases are not only syphilitic in origin, but can also be cured by mercurial treatment, if the mercury be pushed to very high doses." Basing his theory of treatment on the assumptions, first, that tabes and general paralysis are caused by syphilis, second, that the symptoms are due to syphilitic lesions as such, and not to parasymphilitic processes, Leredde gives his large doses of mercury. Only one case is reported in this paper, that of a tabes of exceptionally rapid development, to whom was given hypodermically 1 cgm. of mercuric cyanide, followed by injections of 10 cgm. of calomel, the latter being given weekly. The symptoms have disappeared, and have shown no tendency to recur in two years. It is needless to say that this account is absolutely unconvincing. The article however is worth abstracting, in order to give the views of a noted syphilographer upon this question.

On Amaurotic Family Idiocy.—B. SACHS (*Jour. Nerv. and Ment. Dis.*, January, 1903).—Anything that Sachs writes on this subject is worthy of attention because he is to be regarded as the leading authority on the disease which bears his name. In this paper the clinical history of a case together with the findings of the post-mortem examination are given. Since Sachs's original paper, which described the disease and differentiated it clinically from some of the other degenerative diseases of infancy, many cases have been reported, so that Falkenheim, writing in 1901, has been able to critically analyze sixty-four cases. Clinically the disease presents the following characteristics: It is generally found in the offspring of Hebrew parents and is distinctly familiar in type. Gradually developing blindness, weakness, convulsions, mental retardation, typical changes in the macula lutea, contractures, emaciation, and death in one or two years complete the picture. Microscopic study of the brain cortex in this case corresponds in results with that obtained in the author's first case, published in 1887. Briefly, in amaurotic family idiocy the entire central grey matter is the seat of an intense degeneration. It is to be noted that Sachs does not wish to establish this clinical type as an entirely distinct disease, but insists that this family disease represents a distinct and easily recognizable clinical entity. Somewhat similar nerve changes are found in conditions more or less closely allied to the amaurotic form of family idiocy.

Myasthenia Gravis, with the Appearance of Foci of Cellular Infiltration in the Muscles.—LINK (*Deutsche Zeitsch. fuer Nervheilk.*, Vol. 23, Nos. 1 and 2, 1903).—The interest which this disease arouses grows with each addition to our knowledge of it, particularly if such an addition seems to throw some light on its pathology, which has hitherto remained very obscure. Weigert and Goldflam have each found peculiar cellular infiltrations in the muscles. The former found, in addition to this, a malignant tumor of the thymus. The nervous system in both cases was found to be normal. Link is enabled to add another case with positive changes in the muscles.

Case.—Butcher, age forty-three years, with typical myasthenic symptoms, which began with ptosis, double vision, disturbances in the action of the eye muscles, dysphagia, abnormal fatigue, parietic weakness of the whole of the musculature of the body, myasthenic electrical reaction in the muscles, together with a normal condition of the other organs of the body. There was no atrophy. The unusual feature of the case was its rapid progress, scarcely six months elapsing between the first appearance of the eye symptoms and the death of the patient. At the autopsy, an absolutely normal central nervous system was found and a persistent thymus which, during life, could be demonstrated by percussion over the sternum. In both internal recti muscles, in the right external rectus, in both supinator longi, deltoid, tibialis anticus, which macroscopically appeared normal, were found foci of cell infiltrations. This finding is similar to that of Weigert and Goldflam, but in this case they cannot be regarded as metastasis of malignant growth in the persistent thymus gland, as the gland here was found to be perfectly normal.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

The Pathogenesis and Pathological Anatomy of Enlarged Prostate.—CRANDON (*Ann. Surg.*, December, 1902).—From an examination of thirty-seven prostates, twelve enlarged, twenty-four normal, and one small, the author discusses the bladder-wall in vesical insufficiency, the structure gross and fine, and the cause of enlarged prostate.

He says that the underlying cause of the usual form of prostatic enlargement and of certain forms of prostatic atrophy is a slow formation of new connective tissue, due to infection, or to infection aggravating a senile degenerative process. That the gonococcus is, probably, most often the specific infection because of its great frequency, because other inflammatory causes are not common in the parts in question, and because a great similarity exists between the histology of gonorrheal processes and those seen in these senile prostates.

Neoplasms, fibromata, and adenomata occur, but may be called rare.

Landmarks in the Ureter.—ROBINSON (*Ann. Surg.*, December, 1902).—In an extensively illustrative article the author says that the ureter is not a uniform tube, but has definite isthmuses, or sphincters, with corresponding ureteral dilatations, reservoirs or spindles. It is an independent organ which conducts urine from the kidney to the bladder by rhythmical waves, regardless of altitude or gravity.

Contribution to the Treatment of Affections of the Testicles and Their Adnexa.—ZABLUDOWSKI (*Ann. des Mal. des Org. Urin.*, November 15, 1902).—This article, which also appears in the *Centralblatt fuer die Krank. der Harn-und Sex-Org.*, deals with the treatment of impotence by massage, which consists of the following steps: Constriction by a rubber band for fifteen to thirty minutes, about the root of the penis, including the testicles; milking of the spermatic cords; torsion of the spermatic cords; expression of the testicles; rubbing, tapping, kneading of the testicles and the adjacent muscles, anteriorly and posteriorly.

The treatment is indicated in chronic orchitis, epididymitis, functional derangements, atrophy, nervous and sensitive disorders, anesthesia, hyperesthesia, paresthesia, etc., and pathological secretions. It acts not only in a definite curative way, but also makes profound mental impression.

A Study of the Indication for Nephropexy.—GOELET (*Med. Rec.*, December 20, 1902).—The indication for nephropexy is prolapse of the kidney to the third degree, that is, when its upper pole is palpable beneath the last rib.

This stand is taken because when in this position the organ cannot be properly supported by any kind of bandage or corset, and because of the symptoms of inconvenience it produces; the influence it may exert in producing or maintaining disease of the female pelvic organs by obstructing the return circulation from them, and its influence in causing disease of the kidney itself.

Because the inconveniences that prolapsed kidney produces are not life-taking, it is no reason why the sufferings of the patient should not be relieved, nor that we should wait until serious disease attacks the kidney before offering that relief. That the distress of the female pelvic organs is not coincident with, but dependent upon the prolapsed kidney, is evidenced by the fact that fixation of the kidney relieves the pelvic symptoms. That prolapse may cause serious disease of the kidney itself is apparent upon careful and frequent exam-

ination of the urine. The author designates as "prolapsed kidney," the third degree of descent of the organ, that is, when the upper pole can be palpated below the border of the last rib in front; as "loose" or "movable kidney," that degree of descent of the organ where the lower pole and half of the organ can be palpated below the last rib upon deep inspiration.

The Separation of Urine From Both Kidneys and the Choice of a Vesical Divisor.—RHEAUME (*La Revue Medical*, 1902).—A resume of the history and the gradual evolution of this interesting question is given. The author then proceeds to discuss the relative value of Luys' and Cathelin's segregators, a description of both of which has been given in previous issues of the INTER-STATE'S abstract department. The urine should be collected separately from each ureter (a) when the diagnosis between vesical or renal lesion is doubtful, (b) whenever it is necessary to perform operations upon the kidney. Vesical division by the procedures of Luys and Cathelin is a simple intervention capable of being done by all practitioners, and ought to be a procedure of choice. In the great majority of cases Luys' apparatus is sufficient, but with prostaties, with *man* in general, and in small bladders, Cathelin's instrument is much preferable.

Intracapsular Extirpation of the Hypertrophied Prostate.—RYDYGIER (*Ann. des Mal. des Organ. Genito-Urin.*, November 15, 1902).—Two years ago the author recommended intracapsular enucleation of the prostate in order to cure this hypertrophy. Since then, in continuing this practice, he has noticed that in most of the cases he involuntarily opened the prostatic urethra, whether he operated with blunt instruments or utilized only the finger. While it is true that in his hands no patient has lost his life on this account, still it prolongs and complicates the consecutive treatment. For this reason he has endeavored to find a less dangerous method, and proposes resection of the prostate without enucleating that part nearest the urethra.

The curved transverse incision gives a freer access to the posterior face of the gland; however, the median cut is less dangerous and simpler.

After making the median cut, the tissues are separated bluntly, between the urethra and the rectum, exposing the prostate gland. A sound is introduced into the urethra in order to prevent injury to it. Having opened the prostatic capsule, the finger is inserted and the glandular tissue is freed from the capsule, leaving that near the urethra untouched. This leaves the lobe as if attached by a pedicle to the opposite lobe like a hilum. This pedicle is now clamped by a long pair of forceps at a little distance from the urethra and parallel to it in order to avoid, if possible, the ejaculatory canal. The lobe is then cut off and removed. The other side is operated upon in the same manner. The operation is ordinarily easy and less bloody than a total prostatectomy.

This is expected to relieve a urethra cramped by a hypertrophied prostate, as resection of a goitre relieves a compressed trachea.

The Diagnosis of Calculi of the Kidney by Radiography.—VERHOOGAN (*Ann. des Mal. des Organ. Genito-Urin.*, November 1, 1902).—It is with cases of uncertain symptoms, and especially in those with small calculi of the kidney or ureter, that the x-ray is most needful to differentiate between other pains about the kidney region and those due to calculi alone. Indeed, in one case the microscope even failed to demonstrate any blood whatever in the urine, and yet the radiograph and subsequent operation proved that the symptoms were due to kidney stone. The author reports three cases in which the x-ray gave negative results. Operation that was necessitated by the pain affirmed the radiographic diagnosis. In three other cases in which he was unable to arrive at a diagnosis of stone, the

radiograph gave positive results, which were borne out later by operation. The success of the radiographic picture depends upon the experience of the operator and the care with which he makes his exposure. It should be sufficiently long to penetrate the thick lumbar tissues, but not so long as to penetrate also the calculous substance, and thus efface its shadow. Or, in other words, as the photographer should properly expose his plate to intensify certain characteristics of the subject, so should the radiographer skillfully time his rays. When the radiography is thus made with care, one can affirm that a negative or positive result thus obtained is a certain proof of the absence or presence of calculi.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Professor v. During-Pasha's Report on Endemic and Hereditary Syphilis in Asia Minor. A Review with Remarks.—GEORGE OGILVIE, B. S., M. D. (*British Journal of Dermatology*, January, 1903).—For more than forty years syphilis has been raging in the Vilajet of Castamini (Asia Minor) to such an extent that whole villages have been laid waste by the disease. The constant diminution of the number of those fit for army service made itself felt all the more because it is from these districts that the regiments for the metropolis are chiefly recruited. Several attempts to grapple with the condition proved inefficient. In 1896 Professor v. During was commissioned by the Turkish minister of war to report on the spread of syphilis in the province and to suggest means for its suppression. In two months he made his report, but had to wait three years for its adoption, when he undertook the personal supervision of the campaign. He has achieved a task of which he may justly be proud. The province contains about one million inhabitants. Specific treatment was practically unknown, the disease being left to itself or to "empirics" often worse than the disease.

Professor v. During's paper is based upon the examination of 65,000 people in the province and on more than 30,000 cases of syphilis. Rarely were cases seen more than once, yet this mode of observation has certain advantages which even a long hospital experience or extensive private practice cannot afford. In Dr. v. During's case it has not been without considerable influence in changing his views with regard to several fundamental points in the nosology of syphilis. Without losing sight of general questions or single interesting cases, every district has been examined with regard to certain definitely formulated questions. The examination of, say, 10,000 people, amongst whom 1 to 3,000 are syphilitic, with regard to number of births, to the existence of signs of degeneration, or to questions of heredity in a narrower sense, etc., is bound to give weightier results than if one is intent on noticing every detail in these gigantic numbers. Sufficient matter has been collected to fill a number of monographs on important and unsettled questions, and the author expresses a hope that one or the other of these will in time receive the separate and thorough treatment which they deserve, while at the same time, too, he despairs of doing justice to all of them. Meanwhile he lays before the profession the general results he has come to without statistical apparatus, single histories or typical or exceptional cases. Extent and mode of observation, the rareness of an opportunity to watch nowadays the natural course of syphilis through several generations uninfluenced by treatment, not least, the distinguished scientific position of the author, render his communication one of exceptional interest and importance.

Endemic Syphilis.—The prominent and characteristic features of endemic compared to sporadic syphilis are preponderance of accidental over venereal in-

fections and the frequencies of tertiaries. While in Europe the proportion of accidental to venereal infection is at the utmost 5 in 100, the inverse proportion will come nearer the truth in Asia Minor. To see a chancre is rare (not 4 in 1,000.) The majority of the initial sears and lesions were between the navel and symphysis pubis, and due to homo-sexual intercourse. The other vehicles of infection are drinking glasses, pipes, razors, water pipe, etc. In all reports on endemic syphilis the proportion of tertiaries to secondaries is given as two to one, but, according to v. Düring, one to two will be the more accurate figures. What is the reason for this increased frequency? The author's views have been changed since his last researches and he no longer believes in the attenuation of syphilis by running through several generations.

Of true malignant syphilis only six cases were seen. Precocity and frequency of tertiaries do not constitute the character of malignant syphilis. Malignant syphilis is in its broadest sense due to want of treatment. The further away from cities and depots for treatment the greater the proportion of tertiaries and grave conditions. Poverty, malaria, tuberculosis and poor nutrition are also co-operative factors.

Destructive processes of palate, pharynx and the nose constitute about 40 per cent. of all tertiaries, the tongue was affected in 6 per cent. of cases. Leukoplakia of the mouth is frequently seen even outside of the domain of syphilis, but even if of syphilitic origin it is not influenced by specific treatment, and this is the only "parasymphilitic" lesion allowed by the author.

Diseases of the eye and nervous system were found to be remarkably rare. This may be explained by the connection between the localization of syphilis and irritation or use. Alcohol is unknown. Syphilitic functional disorders, such as neurasthenia, melancholy, etc., v. Düring does not admit. Tabes he has seen three times among the populace of towns, never in the country, and in one case only was there a previous history of syphilis. The author is a decided opponent to the doctrine of the syphilitic origin of tabes and of "parasyphilis." The "chronic intermittent" treatment by mercury as practiced by Fournier he denounces as dangerous and does not hesitate to make it responsible for the frequency of nervous disorders in the statistics published from Fournier's school.

Hereditary Syphilis.—V. Düring now attaches very little weight to his and Fournier's toxine theory of tertiarity and immunity, or any other theory of syphilitic heredity which is modeled on the pattern of some other infectious disease.

Twice v. Düring has met with fresh acquired syphilis in children the subjects of inherited syphilis. With regard to the infectiousness of congenital syphilis he expresses himself with great reserve. He does not deny it, but he states that if he had never seen an exception to Colles' law, he likewise has never seen a healthy nurse infected by a congenitally syphilitic child. Special attention has been paid to the so-called dystrophic influence of syphilis and to its degenerating effects upon racial development. v. Düring and his reviewer, Ogilvie, are of the same mind upon this point, without agreeing in the least with the French school in their conclusion that hereditary syphilitic taint is the cause of nearly all physical and moral abnormalities.

[The importance and value of this article has led to a rather full review of it.—ED.]

Local Treatment of Syphilitic Ulcerations by the Application of a Solution of Bichloride of Mercury (1 to 5000).—M. HALLOPEAU (*Annales of Dermatologie et de Syphilis*, December, 1902).—M. Hallopeau remarks that he has recognized for a long time the value of local application or specific treatment of local lesions to co-operate with general medication. He has seen serpiginous syphilides disappear in a few weeks under the influence of Vigo paste together with internal treatment.

In ulcerative syphilides he soaks several layers of gauze with sublimate solution (91 to 5000), lays it over the part and fastens with a bandage.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Deviations of the Spine in Relation with Chronic Obstruction of the Upper Respiratory Passages.—REDARD (*Gazette Medicale de Paris*, December 6, 1902).—In 1890 the author pointed out the frequent co-existence of deviations of the spine, principally cyphoses, with chronic obstruction of the upper respiratory passages; since then many authors have adopted his conclusions.

Experimentally, Ziem has demonstrated that the nasal obstruction obtained by suturing the nostrils of young rabbits is soon followed by asymmetry of the head, scoliosis and deformity of the chest, the chest being less developed on the side corresponding to the obstructed nostril.

This co-existence is not a simple coincidence, but there is a very evident causal relation, from the fact that cure of the vertebral deviation takes place under the sole influence of the removal of the obstruction of the nose and pharynx.

Cyphosis dorsalis is very frequent with naso-pharyngeal obstruction. It is accompanied generally with thoracic deformity.

Scoliosis is less often encountered than cyphosis, but is observed quite frequently. It is generally combined with a slight degree of cyphosis.

Among the causes of these chronic obstructions may be noted adenoid vegetations, principally of that variety complicated by chronic inflammation of the neighboring mucous membrane, hypertrophy of the nasal mucous membrane, with chronic rhinitis, chronic coryza and ozena, deviations and malformations, with hypertrophy of the septum; traumatic perichondritis; presence of foreign bodies, of mucus and fibrous polypi, etc.

Hypertrophy of the tonsils play a less important role than adenoid vegetations in the pathogenesis of thoracic deformities and deviations of the spine, although we frequently meet tonsillar hypertrophy concurrent with adenoid vegetations.

The author then proceeds to describe the special characteristics of the cyphoses and scolioses which are produced by the nasal and pharyngeal obstructions. He possesses numerous observations of the cure of thoracic deformities and deviations of the spine that he has obtained by the treatment of the nasal and pharyngeal obstructions.

The author claims that it is always necessary to examine the nose and throat when one encounters these deformities or deviations. Treatment of the hypertrophied tonsils is not sufficient; it is necessary to explore the naso-pharynx and look for adenoid vegetations, for it is upon the thorough removal of these that a cure of the deformity depends. Ziem gives the following explanation of these facts: Permanent impermeability of a nostril produces a disturbed development of the bones in the neighborhood of the primitive lesion, thence comes an asymmetry of the head, whence an unequal pressure is exercised upon the spine. First the cervical portion is deviated, thence follows compensatory deviations in other regions of the vertebral column.

Ziem's theory can scarcely be applied to those cases in which the scoliosis is clearly dorsal without cervical deviation and without asymmetry of the skull and face. It is admitted that in these cases the deviation of the spine follows the thoracic deformity produced principally by the chronic pulling, and the respiratory insufficiency, especially in rachitic children and those enfeebled by nasal and pharyngeal obstructions.

The treatment consists in removing the nasal and pharyngeal obstruction to be followed by gymnastic and orthopedic treatment.

Beer-Yeast in Otology.—L. S. MOLIST (*Rev. Cien. Med. de Barcelona*, xxviii, No. 7; *Rev. Med. News*, January 3, 1903).—That beer-yeast administered by the mouth exercises a specific effect upon pyogenic organisms in suppurative conditions is not to be questioned. The author has used a special preparation of this substance, compounded from the formula of Dr. Fita, and known as "Cerevisina-Fita," in otitis media, mastoiditis and otitis externa furunculosa, with surprisingly good results, a teaspoonful being given every four hours. The pain subsided, and the swelling was markedly decreased upon the day following the administration of this remedy in a case of mastoiditis, and by the fourth day the last remnant of the inflammation had disappeared. This method of treatment was equally successful in a case of acute otitis media, with perforation of the tympanum and involvement of the mastoid cells. Local treatment had been used three days without avail, when it was decided to try cerevisina, which gave immediate relief, and the patient was completely restored in less than a week.

Laryngectomy for Malignant Disease.—HARTLEY (*New York Medical Journal*, December 13-20, 1902).—The author carefully reviews the literature from the time of the first thyrotomy performed by Brauers, in 1833, and the first laryngectomy performed by Watson in 1878. He then notes the improved methods with the higher percentages of cures, and the diminution in the death-rate for laryngectomies from 1889 to 1900, which was from 44 per cent. to 8.5 per cent. The increase of those remaining cured for three years was from 7 to 15 per cent. The reason for the steady improvement in the results is attributed to those measures adopted to avoid former frequent causes of deaths, viz., the aspiration pneumonia and the infection of cellular planes enclosing the trachea and its extension to the mediastina. The measures employed to avoid the above danger are: (1) Local anesthesia; (2) Trendelenburg and Rose's posture; (3) division of the trachea at the level of its first and third rings, and its lumen turned forward and sutured to the skin immediately preceding the extirpation of the larynx. A description of the operative technique as employed to-day is also given, and in conclusion the author reports in detail five of his own cases.

Simple Ulceration of the Vocal Cords.—PHILLIPS (*Annals of Otology, Rhinology and Laryngology*, Vol. xi, No. 4) reports the result of a careful study of a case of simple ulceration of the vocal cords, extending over a period of twelve years. The patient is presented as physically perfect with no bad habits and no history of any organic disease. When first seen he was suffering with slight dysphonia and slight hoarseness, no cough and no expectoration. Examination revealed what appeared to be a moderately large nodule, located about the junction of the middle and posterior thirds of the right vocal cord, about over the processus vocalis, a small surface of which was denuded of membrane, presenting all the appearances of a small ulcer about one-fifth of an inch in diameter. There was also a very slight infiltration about the edges of the ulcer. The arytenoids were perfectly normal, and there was no epithelial hypertrophy or wart-like looking eminences in the posterior commissure. The mobility of the cords was not interfered with, and there was no loss of voice. Silver nitrate was applied to the ulcerated surface and potassium iodide given internally. Rest from talking was also advised. After three weeks' treatment and a trip south, the ulceration had entirely disappeared, but the nodule remained for a while, but later on disappeared altogether. The patient passed through four similar experiences. The treatment was the same in all cases, but recovery was never complete until after the usual trip south. The author also reports two similar cases observed by Dr. J. Keneficks. The writer bars out taking cold and overstraining of the voice as causes for these attacks, but believes they can be attributed to climatic influences. The literature on these cases is very meager.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

The Treatment of Epithelioma of the Eyelids by the X-rays.—W. M. SWEET (*Am. Med.*, December 13, 1902).—Three cases are described.

CASE I.—Squamous—celled epithelioma of twelve years' duration, beginning in the skin close to the inner canthus, extending across the bridge of the nose and finally implicating the eyelids and tissues of the orbit. The conjunctival sack was obliterated by adhesions and the eyeball was atrophic. There was constant intense itching and occasional pain. Daily seances for two weeks, every other day for one month, every third or fourth day for two weeks more, resulted in the skinning over of the denuded nasal portion and the diminution in size of the palpebral and orbital disease.

CASE II.—Epithelioma extending from the external canthus to the middle of the lower lid, and involving the skin of the cheek. Complete healing in four months (twenty-two treatments).

CASE III.—Probable epithelioma of lower lid near internal canthus. Completely healed in five weeks (ten exposures).

Microscopic sections of the tissue after a number of exposures show intense leukocytosis and degeneration of the epithelium, while normal tissue under the same conditions shows no change. Loss of sensitiveness to touch and relief of pain are expressions of trophic changes probably due to changes of degeneration in the finer nerve filaments. The technique is as follows: The healthy tissues are protected by sheets of tin-foil or lead. A low vacuum tube is placed six to ten inches from the tissue and the seance continued five to ten minutes. Serious burns which appear (if at all) from seven to ten days after the exposure, result from too prolonged or frequent exposures or when the tube is placed too near the tissue. The newly formed tissue is more pliable and less liable to contract than scar tissue. To guard against recurrence Sweet advocates a continuance of the treatment a short time after healing is completed.

The Medico-Legal Aspect of Ocular Injuries Due to Electricity.—F. TERRIEN (*Le Progres Medical*, December 6, 1902).—In the past two years Terrien has observed forty-five cases of ocular injury of electrical origin, all of which were due to an electrical discharge—short circuit—in the immediate vicinity of the victim. Cases are classified as (1) benign, (2) moderately severe, (3) severe.

Symptoms.—Redness and swelling of the skin, or, in severer cases, a superficial burn of the skin with singeing of eyelashes and eyebrows. Conjunctival hyperemia is constantly present. Circumcorneal injection, chemosis and edema of the lids are rare. Within a few days a scanty mucopurulent secretion appears which consists microscopically of fibrin enmeshing leukocytes and epithelium. In about one-third of the cases a transient ciliary injection denotes hyperemia of the iris and uveal tract. Ophthalmoscopically the retina is hazy, the papilla and large vessels are blurred. The writer has never observed lenticular changes. The patient complains of itching, prickling and a sensation as if a foreign body were beneath the lid.

Functional Disturbances.—Immediately following the injury there is an intense dazzling, which is succeeded in a few minutes by an equally transient erythropsia. Central vision is always impaired and the field is contracted. Fixation is difficult or impossible on account of the quivering of objects. In severe cases the foggy vision may be due to a true central scotoma. This diffi-

culty of fixation and the contraction of the visual field are the last two symptoms to disappear.

Nervous Disturbances.—An early symptom is photophobia. Later, headache of a neuralgic character, pain in and around the eyeballs and a sensation as if a band were compressing the head. Pain is evoked by pressure on the globe, on the ciliary region and at the points of emergence of the supra- and infraorbital nerves. The severity of the pain thus evoked is directly proportional to the intensity of the trouble. There is occasional hyperesthesia of the skin and conjunctiva.

Motor Disturbances.—There is usually blepharospasm and occasionally a true contraction of the orbicularis palpebrarum which may persist several months. As a rule pupillary reaction is normal. If the pupils contract and immediately dilate under continued light stimulation, or if the pupils are dilated and do not react to light, the prognosis should be guarded.

Secretory Disturbances.—Secretion of tears is often excessive and is increased on exposure to light. Some cases exhibit lachrymal crises.

The ophthalmoscopic findings, diminished visual acuity, and consistently contracted field (as determined by repeated observations), taken in conjunction with the symptom group, will exclude malingerers. It is sometimes very difficult to differentiate the immediate effects of the accident from neurotic conditions resulting remotely therefrom. From the medico-legal standpoint this matters little, as the physician need concern himself only with the degree of incapacity for work. Recurrent hyperemia of the conjunctiva, marked and persistent photophobia, inverse action of the pupil, widely dilated pupils, severe neuralgic pain with pain on pressure on the globe and on the points of emergence of the supra- and infraorbital nerves, are of grave prognostic import.

Associated Movements of the Head and Eyes.—W. C. POSEY (*Jour. A. M. A.*, November 29, 1902).—In man movements of the head not only augment the range of the field of vision, but “supplement the action of the extraocular muscles in the delicate task of maintaining proper visual axes.” Posey classifies associated movements of the head and eyes into four groups:

1. Movements which are physiologic, *i. e.*, movements of the head supplementing or augmenting the action of the extraocular muscles.
2. Abnormal, independent, but simultaneous movements, *e. g.*, in disseminated sclerosis, sclerotic foci in the vicinity of the nuclei of the extraocular muscles and the neck muscles produce simultaneous but independent motions of the eye (nystagmus) and of the head.
3. Compensatory movements, as, for example, when the function of an imperfectly acting ocular muscle is assumed vicariously by the neck muscles. To this group Posey assigns cases of torticollis (*spasm* of the sterno-cleido-mastoid) resulting from paralysis of one of the vertical eye muscles. He describes a case where paralysis of the right superior rectus induced a right-sided torticollis.
4. Related but not compensatory movements, *e. g.*, simultaneous movements in head and eyes which occur in conjugate deviations (as in brain abscess). Another type is the up and down or side to side movement in so-called spasmus nictans, where the movements of the eyes may or may not correspond.

Motions of the head cease when the eyes are bandaged or are deviated in certain directions. An exhaustion or irritation process of the ganglion cells which innervate the muscles of the head and neck is believed to be the cause of the movements. Wagging of the head (occasionally seen in miners' nystagmus) is due to a motor exhaustion of the cortical centers.

BOOK REVIEWS.

TRAITE DE TECHNIQUE OPERATOIRE, par CH. MONAD, Professeur agrege a la Faculte de Medecine, de Paris, Chirurgien de l'hopital Saint Antoine; Membre de l'Academie de Medecine, et J. Vanverts ancien interne laureat des hopitaux de Paris; Chef de Clinique a la Faculte de Medecine de Lille. Tome premier, avec 932 Figures dans le Texte. Paris: Masson et Cie., Editeurs, Libraires de l'Academie de Medecine. 120 Boulevard Saint-Germain. 1902.

We have before us the first volume of what seems destined to be, when complete in a few weeks, the most extensive work of its kind in existence. The first volume alone contains 960 pages and is illustrated by 932 figures in the text. The second part is advertised to appear this month and the two are to cost 35 francs (about \$7.00). The idea of the book is, as the name implies, not to give the indications for this or that operative procedure, but rather to lay them all before us, presupposing in the surgeon sufficient acumen to enable him to decide which one is best applicable to the case at hand. Such a work can, then, never be considered as a student's text-book. It is rather a guide for the practitioner, and is by virtue of its great size in a position to furnish all the details to the man who has mastered the earlier general considerations.

The first volume is divided into three portions. No. 1 treats of anesthetics, antiseptics, hemostasis, etc.; No. 2 deals with the operations on the various tissues as such, while No. 3 takes up the subjects which occur in connection with the head, neck and chest (breast included), as well as those which are commonly performed upon the extremities. The second volume will be devoted to a consideration of the surgical affections of the digestive tract and the genito-urinary tracts of the male and female. We are thus reminded that the French still regard gynecological surgery as a part of general surgery.

Especial care seems to have been paid to the treatment of the more recent advances in surgery. Excision of the cervical sympathetic ganglion has in the recent past demanded a good deal of attention; still the operator who found occasion to perform the operation was surprised to note how little could be found on the anatomy or the surgery of the subject. This matter is taken up and fully illustrated by the authors whom we are considering. American readers will be greatly interested in another matter treated in the chapters bearing upon the surgery of the nervous system, viz., excision of the Gasserian ganglion. This article is of chief value to us because we become in it better acquainted with French methods, from the fact that they (especially that of Porior) are given the greatest prominence. This excellent idea, differing essentially from those of Hartly and Cushing—the ones most in vogue in our country—deserves a nearer acquaintance than can be secured from our text-books or from the casual mention accorded it in our journal articles.

To us it seems very strange to find all the especial eye operations in a work devoted to the technique of general surgery; but here it is, and we have at least a set of beautiful cuts, whether they be of value to us or not.

The native fineness of the Frenchman makes him an adept at the plastic surgery of the face; hence we are not surprised to find the chapters pertaining to this subject above the average, presenting as they do in detail the original methods of Nelaton, Lisfranc and the other masters in this line.

The nose, throat and ear, like the eye, come in for their share of treatment in this excellent technical work on general surgery.

TRAITE DE TECHNIQUE OPERATOIRE, par CH. MONOD, professeur agrege a la Faculte de medecine de Paris, chirurgien de l'Hopital Saint-Antoine, membre de l'Academie de medecine, et J. VANVERTS, ancien interne, laureat des hopitaux de Paris, chef de clinique a la Faculte de medecine de Lille. 2 forts volumes gr. in-8, avec 1907 figures dans le texte. Masson et Cie, editeurs. 40 fr.

The second volume of this brilliant French work appeared on time, and now we have it in its complete form. The second part is deserving of all the praise which was bestowed upon its companion when the latter arrived some months ago. The French are as far ahead of the Germans in operative technique as the latter are in advance of them in original investigation; hence the value of a French work upon technique becomes apparent. While the illustrations of French medical and surgical works are, as a rule, not their strong point, as far as quality is concerned, still they are so numerous in the book under discussion that it is not necessary for the reader to be a past master of the language in order to derive benefit from it. The second volume forms an immense work of more than a thousand pages and of almost as many illustrations, being of about the same extent as its bulky mate. The volume now before us treats of the mouth, pharynx, esophagus, stomach, intestine, rectum, anus, laparotomy, liver, spleen, kidneys, ureter, bladder, prostate, and the genitory organs of the male and the female. One can hardly expect the authors of such a work to discriminate for him as to the choice of this or that method in a given case; it must, as in the present instance, ever be sufficient if all the best known methods are given in review, then the surgeon must look to other sources for aid as to a choice, as he does for points on diagnosis and prognosis. In surgery, as in all other lines, different methods are adopted in the various countries for attaining the same ends, so if the operator would be well-equipped he must be in possession of the technique as represented in at least the leading three languages of science. In French there is surely no other book of its kind which can compare on quality or extent with that of Monod and Vanverts.

THE MENTAL FUNCTIONS OF THE BRAIN. By BERNARD HOLLANDER, M. D., London. G. P. Putnam's Sons, New York and London.

This volume has excited a great deal of comment, as well as much adverse criticism. Its purpose is to clear up the mystery of the fundamental psychical functions and their localization in the brain. The author bases his localizations chiefly on clinical and pathological investigations. Over eight hundred cases are adduced, not merely of the recognized varieties of mental derangement, but of all kinds of deviations from the normal mind, even as regards the manifestations of hunger and thirst. The author found that his localizations confirmed those made a century ago by Gall, whose marvelous discoveries of the anatomy and physiology of the brain, on which Spurzheim based his system of phrenology, were ignored even by his most scientific followers, so that the world is ignorant of them, and they are presented for the first time in this book. A volume with such a serious purpose, and towards the preparation of which the author has given so much earnest thought and diligent research, is worthy of serious attention. It can be said that the book is of great value and is almost unique in that it forms the most complete collection of well-authenticated cases which supports the view of psychical localization that we have. That the author's conclusions cannot be shared by the unprejudiced and well-informed reader does not take away anything from the value of the material he has so carefully collected. The chief criticism that can be directed against the author's views is that, at present, the knowledge that we possess of localization in general is too meager to justify any serious attempt to map out the brain surface in areas of psychological func-

tion. The effort of the author to give due credit to Gall is to be praised, especially so as we are in possession of no work which contains an adequate presentation of his views except the original four volumes, published in 1810-1819, entitled "Anatomie et Physiologie du System Nerveux en General et du Cervau en Particulier." As these volumes are difficult to obtain and very costly, they are seldom read, and if Gall is entitled to the place which Hollander claims is his by right, then it is an act of justice that he should be given it. In so far that part of the work relating to Gall is an addition to our knowledge and a service to the world at large. The question as to the permanent value of Gall's work is another matter, and no amount of heroics will make them so. The test of their value will be found in their correctness, which at present, however, is not susceptible of proof one way or the other. Whatever evidence we possess is arrayed against the assumption of definite areas of psychical activity on the brain surface. The book, after all, is well worth reading, and the author's painstaking industry and the careful presentation of his own views are to be much commended. No one can read this volume without being convinced of the author's sincerity and evident desire to furnish the most scientific proof of his contention which at the present state of our knowledge it is possible to offer.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Under the general editorial charge of GUSTAVUS P. HEAD, Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. 10, Skin and Venereal Diseases. Edited by W. L. Baum, M. D., and Hugh T. Patrick, M. D., Chicago. The Year Book Publishers. 1902.

This is an admirable series, far in advance of any year-book that has yet appeared. The tenth volume is an especially good example of the plan which these little volumes are intended to carry out. The review of neurology by Patrick can be praised without stint for the clearness and good judgment with which the year's literature has been abstracted, selected and analyzed. For the general practitioner, for whose advantage the series is published, this volume must be of great service. The careful index adds greatly to the value of a volume which admirably fulfills the purpose for which it is written.

THE AMERICAN TEXT-BOOK OF OBSTETRICS. In two volumes. Edited by RICHARD C. NORRIS, M. D.; Art Editor, Robert L. Dickinson, M. D. Second edition, thoroughly revised and enlarged. Two handsome imperial octavo volumes of about 600 pages each; nearly 600 text-illustrations and 49 colored and half-tone plates.

This is a work for the student and practitioner alike. It makes clear those departments of obstetrics that are at once so important and usually so obscure to the medical student. The obstetric emergencies, the mechanics of normal and abnormal labor, and the various manipulations required in obstetric surgery are all described in detail, and elucidated with numerous practical illustrations.

Since the appearance of the first edition many important advances have been made in the science and art of obstetrics. In this new edition, therefore, a thorough and critical revision was required, some of the chapters being entirely re-written, and others brought up to date by careful scrutiny. A number of new illustrations have been added, and some that appeared in the first edition have been replaced by others of greater excellence. By reason of the extensive additions the new edition has been presented in two volumes, in order to facilitate ease in handling. The success primarily achieved unquestionably awaits this present edition.

OBSTETRICAL NURSING FOR NURSES AND STUDENTS. By HENRY ENOS TULEY, M. D., Louisville, Ky., Professor of Obstetrics, Kentucky University, Medical Department. Pages, 202. Price, cloth, \$1.00 net. G. P. Engelhard & Company, Chicago. 1902.

Although originally written for the use of the nurses in the City Hospital Training School of Louisville, this little volume certainly will prove a reliable guide to the junior student in his studies of the more elaborate text-books of obstetrics. It contains a large amount of practical information on obstetrical nursing.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., assisted by H. R. M. Landis, M. D. Volume IV. December, 1902.

The December volume contains the following departments: Diseases of the Digestive Tract and Allied Organs, the Liver, Pancreas and Peritoneum, by Max Einhorn, M. D.; Anesthetics. Fractures, Dislocations, Amputations, Surgery of the Extremities and Orthopedics, by Joseph C. Bloodgood, M. D.; Genito-Urinary Diseases, by William T. Belfield, M. D.; Diseases of the Kidneys, by John Rose Bradford, M. D., F. R. C. P.; Physiology, by Albert P. Brubaker, M. D.; Hygiene, by Charles Harrington, M. D.; Practical Therapeutic Referendum, by E. Q. Thornton, M. D.

This volume, like its predecessors, will be found a real treasury of information by the busy practitioner, who is not able to follow closely the current literature.

HOW TO SUCCEED IN THE PRACTICE OF MEDICINE. By JOSEPH M. MATHEWS, M. D. John P. Morton & Co., Publishers, Louisville, Ky. Price, charges prepaid, \$2.00.

Charles A. L. Reed, the ex-President of the American Medical Association, said of this volume: "It is one of the significant books of the year. I recall no recent book written in a more captivating style, and I am sure that it will be read by practically the entire profession. It appeals with particular force to every medical student and to every recent graduate."

LEITFADEN FUER DEN GYNAEKOLOGISCHEN OPERATIONSKURS. Fuer Aerzte und Studierende. Von DR. E. G. ORTHMANN, Berlin. Mit 86 Abbildungen. Verlag von Georg Thieme, Leipzig. 1899. Price, \$1.15. (G. E. Stechert, New York.)

While teaching operative gynecology on the cadaver during a period of ten years, the author was asked by a great number of his pupils to compile, in the form of a little manual, the descriptions of all the typical gynecologic operations. He complied with their request, and produced this excellent booklet. It embodies in a concise and clear manner the indications and the technic of all the operative procedures which, in the long practical experience of the author and his chief, Prof. A. Martin, proved the most satisfactory ones.

DISEASES OF THE SKIN. By JOSEPH GRINDON, Ph. B., M. D. Lea Brothers & Co. 1902.

Dr. Grindon has written a most excellent and comprehensive little book of three hundred and seventy-seven pages. It is one of Lea's series edited by Dr.

B. B. Gallaudet, and like all such books is intended to place the subject in its most practical aspect before the reader. The author has been most successful in this respect, his peculiar epigrammatic style forcibly assists in impressing the reader with the points of the text. An example of this occurs in the discussion of diet in the treatment of eczema on page 97, when he says: "The frying pan, the pill box and the whiskey bottle are the trinity which support the American profession." The manner in which the book is written deviates somewhat from the well-trodden text-book style and diction, which renders it rather more readable than otherwise, and books in series such as these of Lea's are written for the student to impress the text upon his memory.

The illustrations are excellent and well selected. The volume is handsomely bound, and does great credit to the author and his publisher.

DIE PHYSIKALISCH-DIAETETISCHE THERAPIE IN DER AERZTLICHEN PRAXIS. Von Dr. BERNHARD PRESCH. Wuerzburg: A Stuber's Verlag. 1902. Parts 1 and 2.

The physical and dietetic measures useful in the treatment of disease are winning for themselves a constantly increasing attention on the part of the medical profession. The literature of the subject has, however, until recently, been scattered throughout the great world of medical periodicals, and so has been quite inaccessible to the busy practitioner. Goldscheider and Jacob's book on this subject, while complete, is too voluminous and very expensive. There was distinct need of a concise compendium which, while free from speculation and theorizing, would offer the practitioner the practical hints he desires. This field is well filled by Dr. Presch's volume, two of the six parts of which have already appeared. The complete work is to consist of 600 to 700 octavo pages and is to cost twelve marks, complete. The first portion, arranged alphabetically like an encyclopedia, takes up each pathological condition in turn and briefly recounts the dietetic and physical procedures suitable to it; the second portion is to consist of a detailed description of the technique of hydro- and electrotherapy, of aero and pneumotherapy, massage, gymnastics, dietetics and psychotherapy. To be sure, the book has the faults of its virtues. One who wishes to learn something about the less important or less definitely recognized methods of physical or dietetic treatment will have to consult the larger work of Goldscheider. In its own field, however, we can unreservedly recommend the book to those of our readers who understand German. It deserves to be translated.

DIE BEDEUTUNG DER IONENTHEORIE FUEER DIE PHYSIOLOGISCHE CHEMIE. Von Dr. THEODOR PAUL. Published by F. Pietzcker, Tuebingen. 1901. 8°. Pages 36.

This little pamphlet is a reprint of an address delivered before the convention of German scientists and physicians, at Hamburg in September, 1901. It consists of a brief account of the theory of ions and of the meaning of the terms acidity and alkalinity from the point of view of that theory. The latter half is devoted to an account of a series of experiments made by the author in investigating the effect on the bactericidal power of an antiseptic solution of the addition of various inert salts, whose presence diminishes the number of ions of the antiseptic in the solution.

THE DISEASES OF INFANCY AND CHILDHOOD. Designed for the Use of Students and Practitioners of Medicine. By HENRY KOPLIK, M. D. Lea Brothers & Co. 1902. Illustrated. Pages 650.

With the growing interest in pediatrics, and in view of the great amount of research work in the field in the last decade, the advent of a new text-book is al-

ways a matter of interest. Dr. Koplik has made a distinctly valuable addition to pediatric literature. The volume is clear, concise and condensed. Indeed, it is questionable whether the condensation has not been carried to a degree that is regrettable.

A noteworthy feature is the constant reference to the views of, and constant excerpts from the writings of, foreign and American pediatricists. With all this, however, the book is not to be considered as a compilation. Dr. Koplik's views have been reached as the result of very extended observation, and evidently careful analysis, and his book is the expression of them.

The chapter on the specific infectious diseases is an especially valuable one, perhaps the best in the book. The various exanthemata are clearly and succinctly described. Clear and detailed descriptions of the technique of lumbar puncture, its scope and indications are given.

Under the head of tuberculosis, the author says that he believes that the diagnosis of tubercular tracheo-bronchial lymph node during life is always highly uncertain. (Page 247.) This is not altogether in accord with the views of many leading authorities. But it is just the expression of such individual views, and there are many instances of this sort in the book, which add in a way to its value.

The illustrations, which for the most part are original, are exceptionally good, and truly illustrative. The book-work is quite up to the standard of the publishers.

THE DEVELOPMENT OF THE HUMAN BODY. A Manual of Human Embryology.

By J. PLAYFAIR McMURRICH, A. M., Ph. D., Professor of Anatomy of the University of Michigan. With 270 illustrations. Philadelphia: P. Blakiston's Son & Co. 1902. Price, \$3.00 net.

This book constitutes an attempt to present a concise statement of the development of the human body and a foundation for the proper understanding of the facts of anatomy. The assimilation of the enormous mass of facts constituting what is usually known as descriptive anatomy has always been a difficult task for the student. This difficulty is largely due to the lack of information regarding the causes which have determined the structure and relations of the parts of the body. Therefore the author has adopted the explanation of the *why* things are so as the underlying principle in this description of the development of the human body.

The book is written in a clear and concise manner and bears ample proof of the author's comprehensive grasp of the subject. The illustrations and the success of the writer in adapting this book to the needs of the student are worthy of high praise.

PRACTICAL OBSTETRICS. A Text-book for Practitioners and Students. By EDWARD REYNOLDS, M. D., and FRANKLIN S. NEWELL, M. D. Illustrated with 252 engravings and three colored plates. Lea Brothers & Co., Philadelphia and New York. 1902.

The favorable reception accorded to an earlier volume which aimed only at rendering the technical details of obstetrical practice accessible to the student, and was, therefore, intended to be merely an accessory to the larger text-books, has induced the authors to rewrite the book on a more extended scale. It is now a complete text-book on obstetrics, characterized by a distinct accentuation of the practical side of this science. The up-to-date appearance of the volume is impaired by the fact that some of the illustrations seem to be taken from antiquated publications. A drawing, representing the application of the forceps or the perforation of the skull, which shows the arms of the operator neatly draped

with coat sleeves and cuffs is decidedly anachronistic in a modern text-book of obstetrics.

This book will prove a reliable guide to the general practitioner.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Issued monthly. Under the general editorial charge of GUSTAVUS P. HEAD, M. D. Volume II.: General Surgery. Edited by J. B. MURPHY, M. D. November, 1902. Chicago: The Year-Book Publishers, 40 Dearborn street. Price, \$2.00.

This small volume is designed to be one of a series of ten which are to cover the entire field of medicine and surgery. The work is avowedly one for the general practitioner, the division into so many volumes being supposed to be eminently suited to his needs. The number on surgery contains 547 pages and 44 cuts, and is arranged into chapters on special and general surgery. Really a vast amount of material, in several languages, has been reviewed, and it will be a help to the original investigator to find that all the literature references have been given in foot-notes. The introduction is in reality a fine editorial on the trend of the surgical thought of the year which has just passed.

THE MEDICAL EPITOME SERIES. Genito-Urinary and Venereal Diseases. A Manual for Students and Practitioners. Illustrated with 21 engravings; 249 pages. By LOUIS E. SCHMIDT, M. Sc., M. D. Series edited by V. C. PEDERSEN, A. M., M. D. Lea Brothers & Co., Philadelphia and New York, Publishers.

A most excellent manual. The author has accomplished the difficult task of writing a complete *expose* of the subject in a few words. In addition to containing all the essence of the familiar and well-tried methods in genito-urinary diseases, the book includes within its pages all that is of worth in the most recent literature. A useful feature is the set of questions at the end of each chapter, which not only makes the volume suitable for quizzing, but preserves the continuity of the text unbroken, and avoids that most disagreeable annoyance to the reader of having the questions interrupt the regularity of the reading matter.

DR. JESSNER'S DERMATOLOGISCHE VOERTRAGE FUER PRAKTIKER. (Second revised edition.) Wurzburg: A. Stuber's Verlag (C. Kabetzsch). 1902.

For those who read German, these little monographs upon practical dermatologic subjects are exceedingly helpful. They are written in a simple, clear, practical manner, bringing each subject up to date. They are more comprehensive than a text-book, yet not too technical to be confusing. The following parts of this series have been received.

Heft I.—Des Haarschwunds Ursachen und Behandlung.

Heft II.—Die Akne und ihre Behandlung.

Heft III.—Pathologie und Therapie des Hantjuckens. I. Teil. Allgemeine Pathologie und Therapie; Pruritus Simplex.

Heft VI.—Die kosmetische und therapeutische Bedeutung der Seife.

Heft VIII.—Dermatologische Heilmittel (Pharmacopoea dermatologica). This is a splendid review of the preparations and uses of the principal dermatological remedies and bases.

Heft IX.—Die Hautleiden kleiner Kinder.

BACTERIOLOGICAL TECHNIQUE. A Laboratory Guide for the Medical, Dental, and Technical Student. By J. W. H. EYRE, M. D., F. R. S., Edin., Bacteriologist to Guy's Hospital, and Lecturer on Bacteriology at the Medical and Dental Schools, etc. Octavo of 375 pages, with 170 illustrations. Philadelphia and London: W. B. Saunders & Company. 1902. Cloth, \$2.50, net.

The reviewer has never read a better book upon the subject dealt with in this volume than the one at hand. The matter is presented in a manner that will claim the attention of students of bacteriology. It is self-evident that one who writes upon the technique of such a subject as bacteriology must be one who is perfectly familiar with the subject. Technical methods spoken of in this work are, in a large measure, original methods. Original methods in technique are constantly welcome to all workers in laboratory subjects. Consequently, Eyre's book will appeal to all who desire enlightenment along this line.

GRUNDZUEGE DER GYNAEKOLOGISCHEN MASSAGEBEHANDLUNG. Von Dr. LUDWIG KNAPP in Prag. Verlag von Fischer's medicinisch. Buchhandlung, Berlin. 1902. Price, \$—45. G. E. Stechert, New York, Agent.

In this booklet of 74 pages the author gives a short but complete and clear treatise on gynecological massage. He describes its technique, the indications and limitations of its use.

But a very few of the text-books on gynecology devote enough, if any, space to a satisfactory consideration of this subject. Massage is to-day one of the most efficacious therapeutic agents of the European gynecologists, but altogether too much neglected in this country. We hope that this little book will help to propagate a better understanding and appreciation of this mode of treatment which yields so satisfactory results in the hands of the experienced.

BEITRAEGE ZUR AETIOLOGIE DER PSYCHOPATHIA SEXUALIS. Von Dr. IWAN BLOCH, Berlin. Zweiter Thiel. Verlag von H. R. Dohrn, Dresden. 1903. Price, Mark 10.

We will refer here to the October number of the JOURNAL, which contains a review of the first volume of this work, alluding to its merits. In this second volume, just published, the author continues and concludes his investigations in the etiology of sexual perversion. He reports the results of his researches of the special etiology of masochistic and sadistic phenomena, and of the compound types of perversity. As stated in the preceding review, the author arrives, from his usually painstaking studies, at the conclusion that the belief of sexual perversity being an inherited condition should finally be abandoned.

OPERATIVE GEBURTSHUELFE FUER AERZTE UND STUDIERENDE. Von WILHELM NAGEL, Professor of Obstetrics in the Royal Friedrich-Wilhelm University of Berlin. Mit 77 Abbildungen in Texte. Verlag von Fischer's medicinisch. Buchhandlung. Berlin. 1902. Price, \$2.50. G. E. Stechert, New York, Agent.

The author of this book is the first assistant of Professor Gusserow's obstetrical clinic in Berlin, himself a well-known writer on obstetrical problems. He gives a very lucid *expose* of the technique and the indications of the obstetrical operations as practiced in this famous school of midwifery in Berlin. Devoting its space entirely to the operative part of this specialty, the volume naturally contains very detailed descriptions of all operations. The value of the book is considerably enhanced by a great number of good half-tones, all of which are origi-

nal. No other text-book in the English, French or German language brings better or more instructive illustrations of version and extraction. While the author's teachings do not greatly differ from those of our own country, a perusal of this excellent book will prove of no small interest to the American practitioner.

LEA'S SERIES OF MEDICAL EPITOMES SCHALEK ON DERMATOLOGY. A Manual of Skin Diseases for the Use of Students and Practitioners. By ALFRED SCHALEK, M. D., of Rush Medical College, Chicago. In one handy 12mo volume of 225 pages, with 34 illustrations. Cloth, \$1.00, net. Lea Bros. & Co., Publishers, Philadelphia and New York. 1902.

Epitomes are not *offered* by their authors and publishers as substitutes for larger text-books, but unfortunately they are too often used as such. This booklet is an epitome, therefore it is very brief, very concise, very easy to "cram," very well printed and bound, and, like all of its kind, its real value to "students and practitioners" very questionable. But we must in justice say Dr. Schalek has done exceedingly well, considering the space allotted him. It must be a very difficult undertaking to boil down into a book of this size the subject of dermatology.

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ORIGINAL ARTICLES.¹

REMARKS ON THE SIGNIFICANCE OF SOME NERVOUS SIGNS AND SYMPTOMS.

BY CHARLES GILBERT CHADDOCK, M. D., of St. Louis.

To give a reason for my remarks about the practical value of certain nervous signs and symptoms, I preface them by brief accounts of two cases that have come under my observation.

A gentleman contracted syphilis. Some years later he consulted a neurologist about anomalies of sensation, weakness and stiffness in the lower extremities, giving, of course, his history. He was told that he had hysteria, and treated in consequence. Fortunately his business called him into the northern woods, where aggravation of his symptoms forced him to consult a country doctor, who recognized the nature of his spinal disease and put him on proper treatment, much to the patient's benefit. However, the patient was treated too late, for he was thereafter afflicted with moderate spastic paraplegia and incontinence of urine. Some years later he submitted to an operation, presumably for his urinary trouble, and died on the third day after the operation.

A physician contracted syphilis in treating a patient. He submitted the primary sore to a celebrated dermatologist, who recognized its specific nature and treated him in a modern fashion for the disease. Iodides caused headache and were discontinued (very large doses of iodides have been taken since without trouble). Later, while doing an operation, the patient felt weakness in his right leg, and a half-hour later he could not get into his carriage. When the dermatologist reached him his symptoms were those of beginning hemiplegia, and he was consoled by the diagnosis of *neurasthenia*. To-day the patient presents the typical condition of organic hemiplegia.*

It is my conviction that the errors made in these two cases were due to certain statements that are to be found in many works on neurology—statements that are misleading to the inexperienced, if not absolutely false. It should be added, however, that such errors are not infrequently the result of superficial examinations.

There is a common professional belief that there is often so close a resemblance between functional and organic disease of the nervous system that a differential diagnosis is impossible. Nothing could be further from the truth, for such cases are rare, and it is my purpose to make some statements here that should aid in the correction of this error.

* I contend that there must have been in these two cases signs and symptoms, besides the history, to arouse a suspicion, if not to establish a positive certainty of organic nervous disease.

For example, we hear and read about a foot-clonus;¹ of exaggerated or diminished deep reflexes;² of Babinski's sign in functional nervous disease;³ of increased or diminished reflexes and foot-clonus during fatigue;⁴ of anomalies of pupillary reaction⁵ and fibrillary muscular twitchings in neurasthenia and other nervous functional disturbances. The fact is that writers take too much pains to emphasize resemblances, and take too little trouble to point out differences.

But faults of observation are responsible for many errors: meralgia paresthetica (not to mention tabes) is almost always mistaken for rheumatism, as are psychic pains, if they happen to be in the neighborhood of a joint. In either case an examination carefully conducted would settle the question.

Notwithstanding the widespread assumption of similarity of the two diseases,⁶ I think general paralysis (paresis) should never be mistaken for neurasthenia, for the very good reason that a so-called case of neurasthenia, if it be a case of "paresis," always presents certain signs and symptoms that are indicative of the organic disease, if they are looked for, and nervous weakness never presents such signs of organic disease. In other words, it is my firm conviction that when a case of so-called neurasthenia finally becomes a frank case of paresis, the unforeseen result is merely due to error of observation and not to absence of distinguishing symptoms *

With apology for my dogmatic statements, the following discussion is an expression of my views of the diagnostic value of certain signs and symptoms of disease of the nervous system.

Foot-clonus is an unequivocal sign of organic nervous disease. It is said to occur in functional disease of the nervous system; it does not.⁷ The so-called false foot-clonus is no clonus at all, but simply a tremor that continues after the upward tension of the foot is removed. The slight and transitory vibratory movements that occur in normal persons when they are examined for foot-clonus do not constitute the sign. In examining for foot-clonus the whole limb should be brought into a state of relaxation by partial flexion of the thigh on the pelvis and the leg on the thigh, after which the forced dorsal flexion of the foot will elicit foot-clonus if it be possible. This sign is equivalent to exaggeration of the ankle-jerk.

Normally the ankle-jerk is most readily elicited by placing the patient in a kneeling posture in a chair with the ankles projecting beyond its edge and striking the tendo-Achilles. When this reflex is exaggerated it may be elicited in almost any posture by tapping on the tendo-Achilles or the muscles of the calf; but the best criterion of exaggeration of this reflex is the presence of foot-clonus.

Diminution of a deep reflex is relatively more difficult to estimate; it indicates organic disease. When with proper care for relaxation of the limb and resort to the procedure of Jendrasssek, we cannot cause a deep reflex to appear after repeated trial, we are justified in referring its absence to an organic cause. If a reflex be feeble as compared with that of the opposite side, the difficulty is increased, for we are forced to judge whether we are dealing with exaggeration on the one hand or diminution on the other. In general, with a lively reflex on

* Recent study of the cerebro-spinal fluid has proved that it should always be examined in doubtful cases of organic cerebro-spinal disease. Lumbar puncture is an easy means of obtaining it.

one side without clonus or other accompaniment of exaggeration, and a diminished reflex on the other, we may conclude that we have to do with a unilateral diminution of the reflex. This is applicable to the knee-jerk and as well to the ankle-jerk.

It should be understood that the ankle-jerk is as constant* as the knee-jerk, and that alterations of it are as significant as those of the knee-jerk.⁸

It is very common to read of knee-jerks as *plus* or *minus*, without any given data of the method by which the increase or decrease was determined. We should take into account that the energy of the knee-jerk varies exceedingly and normally with the individual examined; in other words, that if both knee-jerks be equal, it may be extremely difficult to determine a pathologic alteration of them, considered alone. It may be necessary to "re-enforce" in order to elicit the knee-jerks in a normal person; it may be that the knee-jerks appear with the slightest tap on the tendons in a normal person. How then are we to give the state of the knee-jerks clinical significance? In answer I would say that exaggeration can be so judged only in connection with other conditions: extensive and very quick excursion of the leg with clonic movements of it; possibility of exciting the reflex in postures that never permit it normally (hyper-extension and pronounced flexion?); patellar-clonus; foot-clonus; the sign of Babinski.

Diminution or absence of the knee-jerk is to be determined only by its absence on one or both sides under all methods of examination, or difficulty in causing it to appear on one side when on the other side it presents none of the accompaniments of exaggeration. With a very lively knee-jerk on both sides without other indications of exaggeration, we are not justified in looking upon them as pathologic. I do not regard reflexes as necessarily pathologic when they both require "re-enforcement" and are equal. Very feeble reflexes (especially if one be feebler) that do not alter with "re-enforcement" are more certainly pathologic. The term "re-enforcement" is unfortunate; Jendrasssek's maneuver does not necessarily re-enforce a reflex, but it may merely remove inhibitory influences (attention, involuntary and voluntary tonicities of muscles) that prevent complete relaxation of the limb.†

I have now under observation a case of paralytic dementia presenting some tabetic symptoms in whom the left knee-jerk is present and feeble, the right absent; the left ankle-jerk is absent, the right present and feeble—without resort to Jendrasssek's experiment. When this maneuver is made the reflexes present become more marked, and very feeble jerks appear where they seem absent. This would seem to prove that the maneuver brought about a real re-enforcement, but I would contend that nothing actually proves this; it is as justifiable to assume that without the maneuver the relatively greater tonicity of the opposing muscles is sufficient to prevent the reflex movement of the muscles enfeebled in tonicity; that the experiment diminishes the tonicity of the opponents and

* It is understood that examination must be made on the bare skin. It should never be said to be absent unless it has been found absent repeatedly with examination in the kneeling posture. I am at present making notes of all cases examined, and preparing them for publication. At this moment I have notes of 325 consecutive cases in which the ankle-jerk was present, with one case in which it was absent for cause—organic disease. I have, in many hundred cases, never seen it absent except in frank cases of organic nervous disease.

† S. Wier Mitchell (Ner. Dis. by Amer. Authors, p. 28) attributes "re-enforcement" "to rise in the tonus of all the muscles of the body." This explanation of re-enforcement is vitiated by statements made on the same and the following page of the work cited.

allows those concerned to act. If all muscles of the body were increased in tone by Jendrassek's experiment, we might expect the feeble knee-jerk to disappear like its fellow. If one carefully observes the knee-jerk and ankle-jerk in routine practice, it will be remarked that they occur under identical conditions of position with reference to strain on the respective tendons. If a strain be put upon the tendo-Achilles by dorsal flexion of the foot, the ankle-jerk will not appear or only very feebly in normal persons (this accounts for the prevalent belief that it is inconstant); if the leg be at a right or more acute angle with the thigh, the knee-jerk will present similar defects in normal persons. This tends to prove that it is not so much passive tension of a muscle that aids in the production of the jerk, but rather that the jerk is favored by a certain degree of passive relaxation. The best condition for production of the ankle-jerk is *decided relaxation of the calf-muscles* with slight plantar flexion of the foot; slight voluntary or passive dorsal flexion tends to prevent the jerk. Similarly, the position at an obtuse angle of the knee on the thigh is the most favorable for eliciting and estimating the knee-jerk. Furthermore, the manipulations necessary for the production of ankle-clonus and patellar clonus are in striking contrast with those that favor the occurrence of the corresponding jerks; clonus occurs only when a certain strain is exercised and maintained on the muscles concerned—the exact opposite of the condition that favors the jerks. This suggests that it *may* be possible to find an easy criterion to estimate pathologic exaggeration of the deep reflexes in testing for them in postures causing hypertension of the corresponding tendons.

It is the careless estimate of lively knee-jerks as *plus* or exaggerated that supports the current belief that we may find *exaggeration* of the deep reflexes in hysteria, neurasthenia and functional nervous troubles in general. *True exaggeration* of the deep reflexes as defined in a preceding paragraph never occurs in any functional nervous disorder, though it may occur in some forms of poisoning (strychnia) and *possibly* (?) in some forms of auto-intoxication. However, it is unsafe to regard *alteration* of the reflexes in a case of suspected auto-intoxication as of mere functional significance, for the reason that when such alteration of the reflexes occurs in the course of auto-intoxication, it is a sign that actual material changes have supervened which will probably remain.

The deep reflexes of the upper extremity might be discussed similarly. It is only necessary to make a few qualifying statements. Here, again, it is easier to determine the existence of exaggeration than that of diminution, for these reflexes are not normally so generally distinct as those of the lower extremity. However, differences between the two sides are always significant, and furthermore a very lively radial reflex is in itself more surely indicative of pathologic exaggeration than mere liveliness of the knee-jerks. Very frequently in impressionable nervous persons the knee-jerk is voluntarily made very lively by attention and consequent expectation of the movement, proof of which is easily found if the expected blow of the hammer fails to reach its mark: the movement occurs without any blow at all. This state of affairs does not obtain in relation to the radial reflex. A very lively radial reflex on one side is almost certainly pathologic; for a patient is rarely able to increase it voluntarily or to imitate the quick, sharp jerk that is characteristic of true exaggeration of this movement.⁹ In normal individuals the radial reflex can be obtained in many cases only after much care to obtain complete relaxation of the whole arm; when it is

exaggerated no special care is required to elicit a lively jerk. I would say then that a very lively radial reflex may almost always be regarded as pathologic (exaggerated), and always so if it be unilateral. In the upper extremity we have not the additional aids that help us in estimating exaggeration of the reflexes of the lower extremity; we but rarely find wrist-clonus; so we are forced to rely almost entirely on the character of the arm reflexes alone in judging of exaggeration or diminution. Of course, the state of the reflexes in the lower limbs often helps us to judge those of the upper extremities.

Concerning the significance of alterations of the jaw-jerk, we have less positive data, but it may be said with a fair degree of truthfulness that a very lively and easily induced jaw-jerk is pathologic, and that jaw-clonus is always an *exaggeration* of the reflex, having the same meaning as exaggerated reflexes elsewhere.

The variations of the skin or superficial reflexes in general, are so equivocal that their detailed consideration here would take me too far; among them, however, there is one exception, a certain variation of which constitutes the remarkable *sign of Babinski*.

When the sole of the foot is irritated by a pointed instrument, the normal reflex movement is that of flexion of the toes, dorsal flexion of the foot, flexion of the leg, and even flexion of the thigh, with possibly contraction of the tensor vaginae femoris. Babinski was the first observer¹⁰ to note a variation of this reflex in certain cases, namely, dorsal flexion, or extension of the toes, especially of the great toe. This observer was successful in determining the fact that extension of the great toe when the sole was irritated was invariably a sign of pathologic significance, its physiologic presence in infancy excepted. His conclusions have been confirmed by many observers in many hundreds of cases, and Babinski's sign (the toe-phenomenon) has become classic. Babinski's sign has been called a reflex; this has been denied; its importance for diagnosis has been questioned by a few observers, especially by those who emphasize resemblances rather than differences between organic and functional nervous diseases. My own observation confirms Babinski's original assertions, and I am able to add that in a certain kind of organic disease of the spinal cord the toe-phenomenon can be elicited by various kinds of irritation of the sole: *in ten cases of multiple sclerosis* Babinski's sign appeared on the application of cold and heat to the sole, and the reaction was in all cases more marked than that following irritation of the sole with a pointed instrument.*¹¹

Babinski's sign is always indicative of *disturbance* in the central motor neuron—the pyramidal tract; the *disturbance* is organic in the sense that it depends upon material interference with the functions of the central motor tract. It does not necessarily indicate *degeneration* of the motor tract—i. e., that the *disturbance* is incurable—but it does indicate a disturbance that is not merely functional. The *toe-phenomenon* does not occur in hysteria; in other words, it does not occur in mere psychic disorders. It occurs before complete development of the pyramidal tracts, and when strychnia is exercising its physiologic or toxic influence on the nervous system; it occurs when pressure affects the cord or the cortical motor areas, and disappears with the removal of such pressure. Doubtless further observation will show other material conditions that will

* I have observed the same result in many cases of common organic hemiplegia.

induce the sign. We are now justified in regarding it when present as the most important and unequivocal means of distinguishing between organic and functional (psychic) disturbance of the central motor nervous system. It is further very important because it is found in the very early, as well as in the later stages of organic alterations of the central motor tracts—before the development of exaggerated deep reflexes, and at a time when diminution of deep reflexes is the forerunner of later exaggeration of them. It must be added that some care is needed in eliciting and interpreting Babinski's sign, for voluntary movements of the foot and toes may simulate or obscure it. Careful study of the plantar reflex and its alterations is the only means of avoiding a possible error. It must be understood, also, that it is the presence of Babinski's sign that affords help in diagnosis; its absence does not justify an opposite conclusion.

The anal (skin) reflex is also important, though I am unaware of any serious studies of its variations. It is examined by irritation of the skin or mucous membrane immediately contiguous to the anus. Its presence is clear proof of the integrity of the lower portion of the cord; its absence is testimony of an opposite kind. We have no means of estimating *directly* true and voluntary exaggeration of it.

Owing to the lack of definite knowledge of the variations and value of the reflexes of the genitals of the two sexes, they do not call for discussion here.

The reflex and associated movements of the iris are of capital importance. Loss of the reflex to light is an unerring sign of organic disease (the influence of poisons excluded); marked inequality of the pupils has the same meaning when mechanical (scars) or toxic influences are wanting. Myosis is in general indicative of organic disease, but mydriasis alone is not. The Argyll-Robertson pupil is a sure sign of organic disease, *and almost as sure a sign of precedent syphilis as is a hard chancre of the nature of its cause.*¹²

The deductions from the foregoing remarks may be stated briefly as follows: First, alteration—exaggeration or diminution—of the deep reflexes is always indicative of organic nervous disease; second, Babinski's sign (the physiologic presence noted excepted) and foot-clonus are always signs of organic nervous disease; third, anomalies of pupillary reaction to light have the same significance.

To these deductions there is one exception: disease of a joint may cause atrophy of muscles about it, and with such articular disease there may be *exaggeration* of related deep reflexes, with all the accompaniments characteristic of it. This is, then, the only known exception to the rules already stated.*

The pupillary anomalies of reaction that occur temporarily during or after epileptic or hysterical seizures, or as an accompaniment of profound disturbance of consciousness, owing to their transitory character, may be ignored in this discussion, as are those due to disease of the optic media and nerve. The fibrillary twitchings of muscles said to occur in neurasthenia require much closer study and analysis before they can be said to be identical with those so characteristic of slow pathologic processes affecting the motor cells of the anterior

* Gowers regards arthritic muscular atrophy as due to nutritional changes in the cord, and also states that persistent changes of "myotatic irritability" cannot be dependent on mere functional derangements. It should be said that the writings of this observer are in accord with the views expressed here; but the truth as there stated might be unrecognized when considered in connection with many qualifying and theoretical remarks.

gray matter of the spinal cord. That pathologic exaggeration or diminution of the deep reflexes occurs during fatigue,¹³ there is no evidence to substantiate; on the contrary, it may be said that careful investigations¹⁴ made of this subject prove the contrary, notwithstanding the fact that it has been shown that fatigue causes a change in the material condition of motor nerve-cells in lower animals.

It will be understood that there are many other more or less unequivocal signs that aid in making a differential diagnosis of functional and organic nervous disease, to which no reference is made.

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TOBACCO POISONING.¹

BY DR. A. C. H. FRIEDMANN, of Colorado Springs, Colorado.

While the dangerous effects of tobacco poisoning are known to affect almost every part of the human organism, it is a fact that the result which brings the patient quickest to the physician is the injury which it causes in the eye, and yet in very many cases the patients come very late, often too late, under the observation of the specialist. This is caused by the circumstance that the disease starts very rarely with the central impairment of the vision, and mostly with the peripheral.

I do not desire before this society, devoted to general medicine, to dwell exclusively upon the ocular manifestations of tobacco intoxication, but will also shortly enumerate the injurious effects upon other parts of the organism. Before doing so, let me briefly report the results of the most recent studies of the chemism of tobacco.

1. Read before the El Paso County Medical Society.

Tobacco, when smoked, according to the analysis of H. Thoms,¹ produces nicotine, pyridine and some homologues of the latter; also an ethereal oil, prussic acid, and small quantities of carbon monoxid gas. Seventy-five per cent. of the nicotine which goes into the smoke remains unchanged; 25 per cent. decomposes. It is wrong to believe that all of the nicotine is contained in the smoke. A great part of it is deposited in the stump of the cigar, so that this contains finally from three to four times more nicotine than it did before the cigar was smoked.

Some cigar-makers claim to have invented health cigars, where they make the nicotine non-soluble by treating it with an extract of *origanum vulgare*. In examining these cigars it has been found that 22½ per cent. of the nicotine is decomposed and absorbed—that means just about the same percentage as in ordinary cigars. Figure from this and you can appreciate the alleged value of the health cigar.

In order to determine the effects of the presence of CO gas in the smoke, experiments were made by F. Wahl.² He found in tobacco smoke from 0.6 per cent. to 2.7 per cent., and in cigar smoke from 1 per cent. to 7.6 per cent CO gas. Experiments in which from twelve to fifteen cigars were smoked in a small room—a certain number by the author and the remainder artificially—showed that in spite of the very irritating effect of this atmosphere (especially upon the conjunctiva), no symptoms of CO gas intoxication were noticeable. The air of the room contained 0.02 per cent. CO gas. On testing some rabbits which were confined in the room during the experiment, it was found that their blood had absorbed some of the CO gas. Therefore it may be conceded that, under ordinary circumstances, the CO gas generated by the tobacco does not injure the smoker. It remains to determine the cumulative effects of the poison in chronic smoking.

M. Breitung³ gives us a very good description of the dangers threatening the habitual smoker as soon as he quits. He proves that the strength of the tobacco depends less on its percentage of nicotine than of ammonia. The nicotine being present in the form of salt would burn completely if it were not set free by the ammonia, and so go into the smoke as nicotine.

Statistics prove that the organs mostly injured by excessive smoking of tobacco are those of the auditory and genital systems. No organ of the body, however, is absolutely immune against the poison, though one cannot deny that some of the ailments attributed to the use of tobacco are really caused by the often accompanying use of alcohol.

There exists a vast difference of effects between the different forms of using tobacco. The regular smoking of from twenty to thirty cigarettes always results in more or less injury to the health of the smoker; and while moderate cigarette smoking is without danger, yet the temptation to excess is so great that, almost without any exception, every cigarette smoker succumbs to it. We are, therefore, compelled to call the cigarette a menace to the health of the people, and the national welfare requires the passing of a law against the sale of cigarettes, at least to minors.

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The taking of snuff—which, however, is very rare—does not affect the general health. It only attacks the middle ear by way of the Eustachian tube, and can lead to obstinate forms of chronic otitis media.

Tobacco chewing causes very dangerous intoxication, and tobacco psychosis may arise from it. Therefore the serious effects of tobacco chewing should be insisted upon in all lectures and writings on hygiene.

The injuriousness of excessive tobacco smoking is usually shown upon the heart; weakness of action, slowness of pulse (tobacco heart), and chronic irritation of the trachea, are very frequent symptoms of cigarette smokers who inhale the smoke, and nearly all indulge in that. Tobakosis is a disease whose existence is known only among the laborers in large cigarette factories. It affects the lungs and often leads to tuberculosis.

The absorption of tobacco is rapid, and has been compared to that of hydrocyanic acid. Small birds, near whose beaks nicotine was placed, are stated to have fallen dead without more direct contact. Applications of wet tobacco leaves to the skin of man have caused rapid poisoning, as in the case of smugglers who wrapped their bodies in dry leaves, and when perspiration ensued, were soon overcome by absorption of the nicotine. (Hildebrand, Namias.) The same result has followed the local use of tobacco infusions for therapeutical purposes. Three minutes sufficed for a large amount of nicotine taken into the stomach to kill a man. (Taylor.) The alkaloid is said to act as quickly and powerfully by the mouth as when given hypodermically. (Janessen.) And prompt absorption by the large intestine, as evinced by poisoning after enemata, supports Saboy's contention that this method is peculiarly dangerous. After absorption, nicotine is recognizable in the blood and internal organs, especially in the liver. It is eliminated by the lungs as well as the kidneys.

The chronic tobacco poisoning causes congestion of the air passages with an unclear and raucous voice; the smoker to excess experiences gastric disorders and feeble and intermittent action of the heart, which is termed "narco-tism of the heart," while the breathing, which sometimes has a sighing character, may show a peculiar rhythmical fluctuation. Memory is often impaired; muscular movement may become tremulous and uncertain.

The most characteristic symptoms of chronic tobacco poisoning are evidenced in the eye, and the whole complex of them is known under the name of tobacco amblyopia. The time necessary for the development of this disease is individually different and ranges from six months to many years. It seems to me mostly dependent on the resistance of the individual to the absorption of the poison. The most noticeable features of it are the impairment of the vision and the change in color perception. Some of the less constant symptoms are pallor of the temporal side of the optic disc and indistinctness of its outlines. Highly characteristic of tobacco amblyopia is the presence of a central scotoma. This scotoma progresses in most cases from the blind spot to the point of fixation, which, in advanced cases, it always reaches. The clear perception for red is primarily interfered with, while white remains fairly appreciable. The eye affection is often accompanied by gradual failing of the hearing. A mist or a cloud always before both eyes, especially in day time, the trouble in reading fine print, eccentric fixation caused by central scotoma, the defective field of vision for red and green in the beginning, and for white in advanced cases, are the most characteristic symptoms of tobacco amblyopia. The disease in its first stages is

mostly a curable one, as far as checking its progress is concerned, but one very seldom sees cases in which after a substantial loss full eyesight is regained. Advanced stages almost invariably lead to optic atrophy, the field of vision becomes narrower and narrower, the scotoma gets larger and larger, and ends in extreme cases in absolute blindness. Active therapy is of little avail; the use of tobacco and liquor must be absolutely interdicted, whereby the patient has to be instructed about the sometimes very threatening symptoms of abstinence, which might otherwise drive him again to indulge in the habit. Strychnia injections are sometimes of service; regulation of the diet and avoidance of excitement and dissipation should also be enforced.

The relation of alcohol to tobacco as a cause of amblyopia is disputed. Many German authors (Uthoff) maintain that alcohol is the more powerful of the two, while British authors believe the opposite; Hutchinson even suggests that alcohol may have some counteractive effect when excessive smoking is practiced. However, I believe that the effects of alcohol on the eyes are decidedly different from the effects of tobacco, and as a rule not half as serious. I do not believe that tobacco can destroy the entire nervous system as alcohol does, while the demoralizing effect that often follows alcoholism is never produced by the excessive use of tobacco. The greatest danger lies, of course, in the generally known fact that most drinkers indulge also in the tobacco, and *vice versa*, and it is very difficult for physician and patient to fight both enemies at the same time.

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LABORATORY DIAGNOSIS—ITS RELATION TO THE GENERAL PRACTITIONER.

By RAYMOND WALLACE, M. S., M. D., of Chattanooga, Tennessee.

In these days of progressive medicine, when the empirical is being supplanted by methods scientific, and when the dogmatic is rapidly disappearing in the light of rational investigation, the modern practitioner is beginning to realize the dawn of a purely scientific era in the realm of medicine and surgery. It therefore behooves him as the curator of public health to awaken to the use of practical laboratory methods which have come into general use only within the last decade, and to arm himself with these the most accurate and rational means of diagnosis.

Scarcely more than ten years ago clinical laboratories were unknown, and to Dock of Ann Arbor is due the credit for the establishment of the first clinical laboratory of medicine in this country. His work was immediately followed up by Osler and others until now there is in every well-equipped hospital, and in the offices of many general practitioners, a more or less complete equipment for the handling of blood, urine, sputum and stomach contents, together with the diagnosis of pathological specimens. The purpose of this article is to point out the absolute advantage and necessity of employing laboratory methods of diagnosis, and the ease with which, by careful manipulation and study, they may be made practical in the hands of even an untrained member of the profession.

It is an astonishing fact that the microscope is a stranger in the offices of the great majority of physicians to-day. Their excuse is twofold: First, the greater part of them were schooled before modern laboratory technic was known, and, second, the demands of an extensive practice make it impossible to devote any time to these finer and more accurate methods of diagnosis. Here is

the mistake, and many of the men of twenty years ago have realized it and are as well versed in clinical diagnostic methods as are the more modern product of the laboratory of to-day. Indeed, the general public are demanding more of scientific accuracy from the physician, and the time has come when the bottles of nitric acid and Fehling's solution must be considerably supplemented to meet the demands of even the lay mind.

The possibility of laboratory diagnosis in the hands of the general practitioner predicates a microscope and a small expenditure for apparatus and reagents. The technic and tests may be obtained from various excellent handbooks on clinical diagnosis, and the success depends very largely upon care and skill in manipulation and an absolutely unprejudiced mind in the judgment of results.

The realm of hematology offers a very fertile and important field to the general practitioner, to say nothing of those in the specialties of medicine and surgery. By means of the Tallquist hemoglobin chart, a piece of filter paper, and one point of a stub pen, a quick and reliable hemoglobin estimate may be made within a minute, and comparative work with the Fleischl hemometer has satisfactorily demonstrated that the results by the Tallquist chart are sufficiently accurate for ordinary clinical purposes. From the fresh drop and the oil immersion the malarial parasite may be promptly recognized without referring to the stained specimen. The Widal reaction, which is the nearest to an absolute diagnostic measure that we have in typhoid fever, can be made in a short time when a fresh typhoid culture is on hand. By the examination of spreads in stained specimens a diagnosis of the varied leukemias and anemias is possible. The Thoma-Zeiss apparatus makes it possible to count both the number of red and white cells, thus determining more in detail the severity and nature of the leukemias and anemias.

The leucocyte count may serve as a valuable differential measure in separating measles and typhoid fever from the other acute infections. The presence or absence of leucocytosis has great surgical importance as an earnest of possible perforation in typhoid, in various pus infections and in carcinoma. The importance of the leucocyte count and its interpretation is one of the most interesting fields in diagnostic medicine.

Besides the qualitative and quantitative estimation of sugar and albumin in the urine, a determination of the output of urea is easily and reliably made by the Doremus apparatus. This test is of value in estimating the nitrogenous excretion and the state of the metabolism, especially in the cachexias and wasting diseases. The tests for acetone and diacetic acids are important in cases of diabetes, suggestive of impending coma.

The Diazo reaction, although not absolute, is a valuable confirmatory element in the differential diagnosis of typhoid.

The presence of bile can be quickly detected when present in large quantities by the characteristic foam, and in smaller amounts by the nitric acid test, or the green ring with tr. of iodine. The importance of routine examination of the sediment cannot be too strongly emphasized, for crystalline elements, pus, blood and casts. Pus may be detected in the centrifugated sediment microscopically or by the addition of iodine, which yields the glycogen color reaction. The red blood cells may be recognized microscopically or in traces by the Hemin crystal test. The differential diagnosis between the various forms of parenchymatous

and interstitial nephritis rests very largely upon a careful examination of the size and kind of casts.

In this connection it may be well to speak, also, of tuberculous conditions of the genito-urinary tract and their recognition by staining the dried sediment with carbolie fuchsin and Gabbet's solution. In obscure urethral disorders it is often necessary to make stains of the discharge and determine the presence or absence of the gonococcus.

The necessity of a careful examination of sputum—both macroscopical and microscopical—is generally recognized, yet only occasionally is the practitioner prepared to make these examinations for himself. The search for the tubercle bacillus and the pneumococcus by staining methods should be routine measures. Elastic tissue may be detected after boiling the sputum with sodium hydrate and centrifugating, or more quickly and equally satisfactorily by placing sputum on a piece of ordinary window glass and, after locating suspicious caseous particles macroscopically, press down upon them with an ordinary glass slide and examine under the low power. With a little practice, elastic tissue may be quickly detected by this method.

There should be a routine examination of the stools in gastro-intestinal disturbances, especially for blood, pus, large quantities of mucus, pieces of intestinal membrane, tubercle bacilli and the various forms of intestinal parasites and worms. This is a line of investigation which is naturally superficially carried out in most cases, and, indeed, for that reason alone, the diagnosis is often completely missed. Suspected gall stones should lead to a thorough washing of the stools through a rather fine sieve, and a minute examination of the remaining debris.

Perhaps in no realm of clinical medicine has there been more satisfactory results than in the examination of gastric contents, both for diagnosis and rational treatment. In the hurry of diagnosis the ordinary practitioner prescribes first an alkali, and if that does not relieve, an acid and pepsin is substituted. Consequently, there are to-day a vast army of stomach cases irrationally and unsatisfactorily treated. The use of lavage by means of the stomach tube, the employment of test meals and their chemical examination for total acidity, free hydrochloric acid, the presence or absence of pepsin, rennet and lactic acid, furnish valuable information, both as to diagnosis and treatment. It is also important to make microscopical examinations for the presence of fragments of mucous membrane, pus, blood, fungi and bacteria, as, for instance, the Oppler-Boas bacillus. The determination of gastric motility is made by numerous methods, perhaps none more satisfactory than the administration of salol, and its detection in the urine within certain time limits, as salicyluric acid.

Another quite distinct mine of laboratory procedure, requiring quite another set of apparatus and a distinct training, can, however, be carried on very profitably by the practitioner, and that is the diagnosis of pathological specimens. The debris resulting from a uterine curettage may reveal an extremely glandular development, or perhaps adenoma verging on to carcinoma. An early recognition may thus be the salvation of a patient from later carcinoma. Lymph glands, easily removed, suggestive of tuberculosis, gumma, sarcoma or carcinoma may easily be examined and the definite pathologic process determined. Methods employing celloidin, or even paraffin, require but little apparatus, and the return is, indeed, manifold.

In concluding, it must be clearly understood that the above is, in no way, intended as a complete resume of the means of laboratory diagnosis which are at the bid of the skilled clinical diagnostician. They are simply suggestive of certain lines of work which may and should be more generally prosecuted by the general practitioners of medicine throughout the country. It is by these methods that medicine shall be kept from the ignominy of disrepute and charlatanism, and held upon a solid foundation, with scientific methods at its base and a superstructure of conservative and rational judgment.

CLINICAL REPORT.

APPENDICITIS.

By H. L. NIETERT, M. D., of St. Louis,

SUPERINTENDENT AND SURGEON-IN-CHIEF CITY HOSPITAL OF ST. LOUIS, MISSOURI.

During the past year sixteen cases of appendicitis came under our observation. Of this number, three died.

The first case to die was case No. 4, history No. 4482. Patient entered the hospital October 3, 1901, with all the symptoms and signs of a general peritonitis, namely: a small and rapid pulse, marked pain over abdomen, with distention and tympanitis, nausea and vomiting. The tympanitis was present everywhere excepting over the left iliac fossa, where the percussion was dull. The diagnosis was that of general peritonitis; the cause of this could not be determined with certainty. It was decided to immediately perform an exploratory laparotomy. After an examination of the heart and lungs, patient was given chloroform. The abdomen was opened in the median line, and it was found that a marked suppurative peritonitis was present. The appendix was thought of as the most probable origin of the inflammation, and was sought. On searching the right iliac fossa, instead of finding the appendix in its normal location, we found in its place the sigmoid flexure. We decided, therefore, that we had to do with a transposition of organs, and the appendix was then readily found in the left iliac fossa. It was found to be gangrenous, and was removed. The peritoneal cavity was then drained; hot, moist packs were applied, and the patient put to bed. Patient died within twenty-four hours after the operation.

The post-mortem examination showed a general purulent peritonitis, and a complete transposition of all the viscera.

The second case to die was case No. 8, history No. 7076. Patient entered the hospital January 20, 1902, with the following history: Three days prior to arrival he had a pain in the lower portion of the abdomen, which localized itself in the right lower quadrant. The pain rapidly became worse and necessitated his removal to the hospital. He vomited at frequent intervals, and was constipated. Examination on arrival revealed the following: He gave the appearance of being very sick. He vomited at frequent intervals, and complained of intense pain in lower portion of abdomen, especially on the right side. Respirations were shallow and 38 per minute; pulse, 120; temperature, 101° F. On pressure, tenderness was greatest in right iliac region. At the site of greatest tenderness edema and erythema were present. Our diagnosis was perforative appendicitis, with localized peritonitis. Prognosis was unfavorable. This case apparently belonged to that class of patients in which Ochsner advises against immediate operative interference. It was decided, therefore, to treat this case according to the Ochsner method. Firstly, to free stomach of all contents by repeated lavage of the stomach if need be. Secondly, by prohibiting all food or medicine by mouth. Thirdly, relieving pain by small hypodermic injections of morphine. Fourthly, by feeding and stimulating per rectum.

By the above procedures it is calculated to stop all peristaltic movements of the bowels, and thus to prevent the spread of the peritonitis. In this manner time is given for the formation of firm adhesions and localization of the inflammatory condition. After the acute stage Ochsner advises operative interference.

However, the treatment did not have the desired effect, and the peritonitis spread rapidly. After pursuing this treatment for three days, the patient showed definite signs of a general peritonitis. The abdomen was swollen and tympanitic. The pulse was very rapid and small. The respirations were frequent and shallow. Temperature rose to 104 F. It was then deemed best to open, flush and drain the peritoneal cavity. An incision was made in the median line of the abdomen. It was found that the peritoneum was highly injected and covered with a thick fibrinous exudate, which agglutinated the bowels. The appendix was found to be gangrenous, and was removed. The bowel, which was highly distended with gas, was punctured by means of trocar and canula, to permit of its escape. Incisions were made in both lumbar regions for the purpose of drainage. The soft adhesions along the entire course of the bowel were loosened, and the peritoneum was thoroughly irrigated with a physiologic saline solution. Rubber tubes and gauze drainage were introduced. A hot, moist pack, temperature of 115 F., was applied to the abdomen at intervals of six hours. Patient did not improve after the operation, and died the following day.

A post-mortem revealed the presence of a general suppurative peritonitis.

The third case that died was case No. 9, with history No. 6445. Patient entered the hospital with the following history: Present trouble began ten days prior to entering the hospital, with pain in the abdomen. He had been constipated. Examination showed a fluctuating mass in the right iliac region, which was plainly palpable per rectum. Blood analysis showed leucocytosis. These signs, with others, led to the diagnosis of perforated appendicitis-with formation of abscess. Immediate operation was decided upon. An incision was made in the right linea semilunaris, over McBurney's point. An abscess, which was well walled off by firm adhesions, was opened. The cavity was carefully wiped out with small pledgets of gauze. The appendix was sought for and removed. The abscess cavity was drained with a small rubber tube. For a period of fifteen days patient did fairly well. At the expiration of this time patient began to cough, had a rise of temperature, and showed some of the signs of pneumonia. About twenty-one days after the operation he complained of frequent chilly sensations, and had severe paroxysms of coughing. Patient expectorated a great deal of purulent sputum, which at no time showed the presence of tubercle bacilli.

The physical examination revealed an area of dullness over the lower portion of right lung posteriorly; an absence of tactile fremitus with the presence of bronchial breathing. Paracentesis thoracis was performed and a purulent fluid withdrawn. A thorocotomy was performed and two inches of the seventh rib, in post-axillary line, was removed. On introducing the finger into the thoracic cavity it was apparent that the abscess led downward, backward and retrodiaphragmatic. The empyema seemed to have originated by the burrowing of pus retroperitoneally from the appendicular abscess upward to the pleural cavity. Rubber tubing was inserted as drainage. Patient was weak on account of general sepsis, and died on February 3, 1902.

Post-mortem examination could not be obtained.

During the past year it was observed that all of our cases of appendicitis were received when the suppuration was already present. In each instance the pain was most intense at or about McBurney's point. In ten cases a distinct tumefaction could be felt in the right iliac region. In six cases a tumor could also be felt on palpation per rectum. In all cases save one there was a localized peritonitis; the latter case (with history No. 4482) presented a diffuse peritonitis.

One of the important signs of the degree of inflammation and for the determination of the presence of pus, was the presence or absence of leucocytosis. Examination of the blood was made in every instance, and an increase in the number of leucocytes was found always present. In all of these cases the Widal's reaction was negative. The pulse, as usual, proved to be a valuable measure for the differentiation of localized from general peritonitis. In the former the pulse was but little altered, while in the latter it became frequent and thready. All cases save four were treated by immediate laparotomy and entire appendectomy. Formerly it was our custom in suppurative appendicitis to open the abscess, drain, and to leave the appendix alone unless readily found. In this series of cases the appendix was searched for and removed in each instance. The technique was thus: The abscess was opened. The pus was carefully wiped out with dry gauze, so as to preclude any possibility of contamination of the general peritoneal cavity. Cæcum was then loosened and carefully drawn forward into the wound. After having carefully walled off the field of operation with gauze sponges, by following the linea it was always an easy matter to find and remove the appendix. General peritonitis in no case followed this procedure.

In case No. 8, which, as seen in history given above, was treated by the "Ochsner method," the patient developed a general peritonitis and died.

From our observations we conclude the following:

Firstly, that the examination of the blood for leucocytosis is an important diagnostic measure.

Secondly, that all cases of perforating appendicitis should be operated upon immediately.

Thirdly, in all instances the appendix should be sought for and removed, whether suppuration exists or not.

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EDITORIAL COMMENT.

THE LAW AND OPHTHALMIA NEONATORUM.

At a recent meeting of the St. Louis Medical Society during a discussion on ophthalmoblennorrhoea neonatorum the following interesting fact was elucidated: that upon the statute books of the state of Missouri appears a law bearing upon the prevention of blindness in the newborn. This law, signed by Governor Stone in the earlier part of April, 1895, is of an excellent character, and the state of Missouri is largely indebted for this beneficent legislation to the unselfish efforts of Dr. M. Hayward Post, of St. Louis.

The law referred to reads as follows:

SECTION 1. Should one or both lids of either eye or both eyes of an infant become red or swollen, or should there be any discharge from either eye or from both eyes at any time within three weeks after its birth, it shall be the duty of the midwife, nurse, or other person having charge of said infant, at once, unless for good cause shown, to report the condition of said eyes to a legally qualified practitioner of medicine.

SEC. 2. Every health officer shall furnish a copy of this act to each and every one who is known to him to act as midwife or nurse, in a city or town for which said health officer is appointed, and the secretary of state shall cause a sufficient number of copies of this act to be printed, and shall supply the same to such health officers on application.

SEC. 3. Any failure to comply with the provisions of this act shall be a misdemeanor, and shall be punishable by a fine of not less than ten and not more than one hundred dollars, or by imprisonment not to exceed six months, or by both such fine and imprisonment.

SEC. 4. All acts and parts of acts inconsistent with this act are hereby repealed.

The second interesting point developed in the discussion was that the existence of this law is practically unknown to the medical profession.

The question arises whether this law is in truth a valuable asset to the commonwealth, or, on the other hand, does it fall within that vast collection of useless legislation that burdens the statute books of the United States.

It is the general consensus of opinion among competent ophthalmologists that the eye of the newborn affected with ophthalmia can be saved with little or no injury if proper therapeutics be instituted at an early stage of the affection. A strict compliance with this law would bring the infected eyes of the newborn under the observation of regularly qualified practitioners of medicine at this required early stage. A strict compliance with this law will reduce to no inconsiderable degree the number of the hopelessly blind, for it is common knowledge that approximately 25 per cent. of the hopelessly blind have been the victims of ophthalmoblennorrhoea neonatorum. It is well for us to contemplate a possible reduction by almost 25 per cent. of the hopelessly blind; to reflect upon the inconceivable amount of distress, sorrow and suffering that might be removed from already heavily burdened humanity. It is well also for us to contemplate that a strict compliance with this law would save the exchequer of the state a tangible sum which might be wisely applied in developing and furthering the comfort of its remaining wards or otherwise invested in allied channels of an humanitarian character.

It needs no further extension of argument to convince any fair-minded man of the incalculable possibilities for good in a strict enforcement of this law. But we are confronted with the unfortunate fact that no conviction and no prosecution under this law have ever been made in the commonwealth of Missouri; and, furthermore, so far as our information goes, that there never has been a report based upon this law made by a midwife, to the proper authorities of the city of St. Louis.

It is imperative if we desire to secure the benefits possible under this law that the medical profession inform itself of its existence, take pains to disseminate information bearing upon its humanitarian possibilities, and by all reasonable and ethical avenues bring it before the proper authorities. We strongly urge that at the earliest moment a test case be made, and the moral support of the physicians in that particular locality be enlisted in bringing to justice those who either from ignorance or criminal intent are violators of the law.

We may add in this connection that delegates from the St. Louis Medical Society to the Medical Association of the State of Missouri will be instructed to bring this matter before that body, to the end that its hearty co-operation and valuable support may be enlisted. And it is hoped that the medical profession of the United States, through the American Medical Association, may be induced upon some broad and conservative lines to extend the knowledge, to create plans, and to foster appropriate legislation by which these helpless infants may be protected in their rights against the ignorant, the quack and the criminal.

AUTOGENETIC REGENERATION OF NERVES.

A question of great importance in the physiology of the nervous system is at present being discussed in some of the neurological journals of this country and of Germany. Upon the decision of this question the permanency of the neuron theory, or at least its present meaning, will very likely depend. Since Bethe's demonstration of the neuro-fibrilla and his assertion that the so-called neurones are not anatomical units, the neuron theory has, in the opinion of many neurologists, received a decisive blow. Bethe's demonstration being in the main anatomical in character, was open to the objections which proofs of an anatomical nature, which need for their preparation microscopic technique of great complexity, always present. These objections may be stated as based upon two main facts: First, a method so complex that few investigators are able to successfully follow it, necessarily limits the chances of corroborative evidence. Second, the more complex any histological method is, the greater the chance becomes for the creation of artifacts. When, however, Bethe is able to add to the anatomical evidence of his contention physiological proofs, then his theory immediately becomes of the greatest importance. Such evidence he seems to have been able to present by the following experiments: He excised a portion of the sciatic nerve on one side in young cats and dogs, and by means of a certain method, not as yet made public, he prevented the central and peripheral stumps from uniting. After some weeks, or months, the peripheral stump was freed and stimulated electrically. The muscles supplied by this peripheral stump reacted and with so slight a current that, when it was applied to the muscles themselves, it was not of sufficient strength to cause any reaction. Physiologically the peripheral nerve was not in connection with the rest of the nervous system. A careful dissection showed no anastomosis between the peripheral stump and other nerves which were in connection with the central nervous system. A microscopical examination of the peripheral stump showed regenerated nerve fibres (axis cylinders and myeline sheaths). This same condition was found when the central portion of the sciatic, together with its spinal ganglion, was torn out completely from the spinal cord. It is difficult, of course, to decide upon the actual value of this experiment, chiefly because added proof from similar experiments made by others seems at present to be lacking. Munzer, a staunch upholder of the neurone theory, was not able to corroborate Bethe's results, though following in the main his procedure. The question seems at present to be undecided, with the evidence certainly in favor of Bethe's assumption, for the reason that one positive proof is of greater weight than many negative refutations. It is to be noted in this connection that Bethe seems to be adding to the force of his denial of the correctness of the neurone theory by a series of experiments, every one of which seems to be a logical development of his ground principle, which depends upon the assertion that the nervous system is not composed of a chain of anatomical units, but is made up of a system of continuous fibrillæ. This last, that of the autogenetic regeneration of nerves, appears to be the most convincing of all his experiments.

THE TREATMENT OF SCARLET WITH A SPECIAL ANTISTREPTOCOCCIC SERUM.

Working on the hypothesis that the specific cause of scarlet belongs to the streptococcus group, several observers have been using antitoxic sera prepared by injecting horses with live cultures of streptococci obtained from scarlet fever patients.

Baginsky and Summerfield, in Berlin, and Moser, of Vienna, have produced sera and tried their effects in series of cases. At the meeting of the German Medical Association in Carlsbad last summer both reported results, Moser being much more enthusiastic than Baginsky. Elsewhere in this issue will be found an abstract of Moser's paper which has just appeared. Examination of his figures shows that sixteen of eighty-four cases injected died, though it is to be remembered that only the severer cases were injected. It will be noted that Moser injects 180 c. c. of serum and repeats this dose if necessary. Although he does not think that any harm to his patients has come from the introduction of such large quantities of serum, it is questionable whether such procedure is free from danger. In the last volume (No. 35) of the *Archiv fuer Kinderheilk.*, Monti, of Vienna, has an article on serum exanthems, in which he raises the question, believing that the intoxications following the use of all sera are to be explained by the introduction of a foreign proteid containing animal serum. If this be true, the danger must certainly be greater from the use of 180 c. c., which Moser uses, than from the 5 c. c. used ordinarily in diphtheritic antitoxin injections.

Evidently the question of serum treatment of scarlet is not settled as yet, though these attempts form a valuable contribution toward advance in the treatment of this disease.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Symptomatology of a Case of Tuberculosis of the Lymph Glands Resembling Pseudo-leukemia.—SCHUR (*Wiener Klinische Wochenschrift*, January 29, 1903) reports a case which the autopsy showed to be tuberculosis involving the lymphatic system, but which clinically greatly resembled a pseudo-leukemia. The enlarged lymph nodes in the cervical region presented the first indication of the disease; this was followed by fever, an enormous leucocytosis, etc. The fever, while not characteristic of pseudo-leukemia, has been noted in isolated cases. No definite explanation could be offered for the marked leucocytosis, reaching 60,000, excepting a number of miliary abscesses found in the cortex of the kidney. It is hardly probable, however, that they could have called forth such a decided reaction. The writer considers this one of those cases of gland tuberculosis presenting certain characteristics of pseudo leukemia.

Concerning the Regulation of Exercise in the Treatment of Tuberculosis.—PENZOLT (*Muenchener Medicinische Wochenschrift*, January 6, 1903) discusses in this article the question of rest and exercise in tuberculosis, and shows the importance of well-defined rules as to the rest demanded and the exercise allowed in these cases. He maintains that in doubtful cases too much rest does less harm than too much exercise. As soon as the rectal temperature reaches 38° C. the patient should be treated in bed, and after every acute process (such as hemoptysis, exudative pleurisy, etc.) the patient should be put to bed for two months, avoiding every unnecessary movement.

He recommends that the temperature, taken by rectum, be made the criterion in every case. The temperature should be taken every time the patient exercises, and if it goes above 38° C. it is an indication that the exercise was a bit too severe.

Investigations Concerning the Ports of Entrance for Tuberculosis in the Pharynx.—ITO, Japan (*Berliner Klinische Wochenschrift*, January 12, 1903).—Inasmuch as lymphoid tissues are peculiarly susceptible to infections with tuberculosis, the writer carried out thorough systematic investigations concerning the primary involvement of these tissues, which abound in the pharynx. To this end the base of the tongue and the lingual and palatal tonsils were examined in autopsies of one hundred and four children under thirteen years. The diagnosis of tuberculosis in these organs was based upon microscopic examinations only. Statistics based upon his negative findings and the investigations of others, show that the palatal tonsils were primarily involved in about 2 per cent. of the cases examined, the pharyngeal tonsils in about 3.5 per cent., and the lingual tonsil never. In no case have the vallecule epiglotticæ been found involved, primarily or secondarily. In not one of the one hundred and four cases examined by the writer were the palatal, pharyngeal or the lingual tonsils, the mucous glands of the tongue or the vallecule epiglotticæ found primarily involved. Secondarily, however, the palatal tonsils were involved in five cases, the pharyngeal tonsils in two, the vallecule epiglotticæ in one, and the mucous glands of the tongue in one.

Observations Concerning the Percussion of the Apex of the Lungs According to Kroenig.—WOLFF (*Deutsche Medicinische Wochenschrift*, February 5, 1903).—The early diagnosis of pulmonary tuberculosis, leaving out of consideration the tuberculin reaction, must be made by means of the physical examination. In the strict sense, the bacteriologic examination of the sputum is not a means of early diagnosis, since ulcerative processes are necessary to the appearance of the bacilli in sputum. The author recommends a modification of Kroenig's "topographic percussion of the apices of the lungs." The latter lays great stress upon the formation of the boundaries of the apex of the lungs—"lungen spitzenlinien." The writer points out the importance of well-defined boundaries, and therefore recommends the measurements, under careful percussion, of the so-called apical isthmus ("spitzen-isthmus"). By this is understood the expression in centimeters of the area of resonance, about one centimeter under the edge of the trapezius muscle and three centimeters above the clavicle. Under normal circumstances this area has a diameter of four centimeters. Any marked variation in this diameter of either side would indicate either an infiltration or a retraction. The method requires very light percussion with a plessimeter adapted to the purpose, or with the fingers held parallel to the supposed apex.

Albuminous Expectoration Following Thoracentesis, with Report of a Case.—ALLEN (*Johns Hopkins Hospital Bulletin*, January, 1903) reports a case of this rare complication following thoracentesis, occurring at Johns Hopkins Hospital. Immediately following the operation, 3100 c.c. of fluid being withdrawn, the patient began to complain of shortness of breath and smothering sensations. This was soon followed by paroxysms of coughing and the profuse expectoration of serous frothy sputum. The expectoration continued for several hours. Recovery was complete. These cases may be divided into mild, severe and grave forms. The character of the expectoration is the same in all. The fluid is frothy, viscid, and of a greenish color. Upon standing it separates into three layers. It yields an abundant precipitate of albumen. The expectoration may begin before the tapping is complete, but most often begins from five minutes to two hours afterwards. Though the fluid greatly resembles the pleuritic fluid, it is hardly probable that these cases are due to perforations of the lungs by the trocar, for no such condition has ever been demonstrated in the autopsy of these cases.

The quantity of expectorated fluid is much larger than could be accounted for by a spontaneous perforation of the lung. Some have thought this phenomenon due to the reabsorption of the fluid remaining after thoracentesis and its discharge through the pulmonary vesicles and bronchi. This, however, is contrary to the teachings of physiology; the natural path for the absorbed fluid would be into the lymphatics, and thence into the general circulation. Acute edema of the lung is the most logical explanation. This view is supported both by the clinical symptoms, physical signs, and post-mortem findings.

The Pathology and Therapy of Asthma.—SIHE (*Wiener Klinische Wochenschrift*, January 22, 1903) presents an exhaustive consideration of asthma, in which he maintains that it is a neurosis of the respiratory and circulatory tracts. Four factors stand out pre-eminently in this connection: (1) Hypertonia of the unstriated muscle fibers of the respiratory tubes; (2) hypotonia of the circulatory system; (3) bronchial secretion brought about through nervous influences; and (4) hyperemia of the mucous membrane of the entire respiratory tract. These four factors can be stimulated through three sources, viz.: the peripheral nervous system, irritants circulating in the blood, and through the cerebrum. The author speaks, therefore, of a peripheral, a hematogenic, and a cerebral asthma.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Personal Experiences in Cancer of the Intestine.—(*Archiv fuer Klin. Chirurg.*, Band 69, Heft i. and ii.)—Articles on this subject from the pen of this distinguished writer are most eagerly read and appreciated by the surgical profession. In the last eleven years he has operated upon one hundred and six malignant tumors of the intestine, the rectum excepted. Of the one hundred where cancer was the disease the growth was in the small intestine only five times, showing conclusively how rarely one may expect this portion of the bowel to be the seat of such disease under ordinary circumstances. The author writes that one must always suspect malignant disease whenever the intestinal functions of an old person, who has been healthy otherwise, suddenly become disturbed, especially if symptoms of stenosis make their appearance, whether a tumor can be felt or not. Where the trouble is chronic, the patient is generally in good enough condition for radical operation, but the prognosis becomes entirely different when we have to do with a case complicated by an acute obstruction. Here only a few patients are ever able to stand such a procedure. The three who were operated on by the author, with all his skill in this line, died. Under such circumstances as those just mentioned it becomes readily apparent that we had better often make use of an operation in two sittings; and indeed the author's experience has shown that his double operation has a mortality of only 12.5 per cent., whereas the operation in one sitting has a mortality of 42.9 per cent. under given circumstances. Again, the danger of peritonitis is much greater in the single than the double operation. And so this has become a routine practice with Mikulicz during the last five years. His idea is to loosen the mesenteric attachment and bring the tumor up on to the abdominal wall, where it is removed at the operator's pleasure and an artificial anus left.

Through-and-Through Intestinal Suture, with Report of Additional Cases.—F. GREGORY CONNELL (*American Medicine*, January 24, 1903).—This author, who is well-known for his admirable suture with the knot in the lumen of the bowel, presents another paper which is an amplification of the one which appeared in October, 1901, and introduced his method to the public notice. The present article reviews the history of intestinal surgery, more especially that of the suture which includes all the coats; at the same time the Connell procedure is explained at full length. This latter is well known, it would seem, but on account of its evident value the main details are here reproduced for the benefit of those who may not have seen it. It consists of a row of through-and-through sutures, the knot being placed within the lumen after the needle has returned to the interior of the bowel from which it originally carried the thread. Only one row of silk is used, there being no separate stitches for the peritoneum. The first stitch of all includes the mesentery and renders this difficult and delicate matter more secure than does any other of which the reviewer is informed. The last suture is hard to introduce, but when in place is certainly a secure finish for a rapid and safe anastomosis. The method has now been used sixty-four times, and out of all these patients but twenty-one died, there being in but one case any proof found at the autopsy to show that this procedure had been at fault; in the one case mentioned, the bowel wall was tuberculous, it must be said. For complete details of the method one is referred to the original article as well as to the *Journal of the American Medical Association*, October 12, 1901.

A Case of Arterio-venous Anastomosis for Arteritis Obliterans.—GALLOIS ET PINATTELLE (*Revue de Chirurgie*, February, 1903).—This interesting and novel operation was performed in a case where gangrene had caused the loss of one leg, and was already threatening the vitality of the other. Preliminary hemostasis was assured by placing silk temporary ligatures around the artery and vein within the limits of scarpa's triangle. After a long suture which united the adventitious coats of the two vessels a longitudinal opening was made in each, when by a second row of sutures the inner coats of the two were united, in very much the same way that a lateral intestinal anastomosis is often made. Next a third row of stitches joined the adventitia in front, and the work was complete. No pulsation appeared in the vein, though the same had been confidently expected. The gangrene progressed up the leg as though nothing had been done to arrest it, and a few days later the patient died with the symptoms of a cerebral embolism. At the autopsy the common iliac was found obliterated on the side of the amputation, while on that of the anastomosis the femoral was affected in the same way, below the anastomosis and the vein as well, thus making the new opening useless though it was found to be patent; hence, the operation was in no way to blame for the imperfect result. (Judging from the anatomical result in this case, it would seem that something might be expected from this ingenious French operation in a more favorable case.—*Rev.*)

What Are the Prospects of the Patient Who Has Been Operated Upon for Cancer of the Breast, After Involvement of the Supra-clavicular Lymphatics Has Become Apparent?—KUETTNER (*Beitraege zur Klinischen Chirurgie*, Band xxxvi, Heft 2).—The material of the clinic at Tuebingen is peculiarly adapted for the compilation of such a statistic as follows because the patients come from so small a district that their movements can be followed as long as desired; in the present instance, the surgeon did not lose sight of a single patient operated upon. From 1880 to 1892 fifty-four such cases were operated upon, and of the number forty-one can be used in the manner desired; of this number it is sad to relate that not one is alive to-day, surely a mournful commentary on the procedure in question. Our author goes so far as to say, in view of what has gone before, that every case of cancer of the breast in which the supra-clavicular nodes can be felt, give an absolutely bad prognosis. He says further that the prophylactic excision of the lymphatics above the clavicle is not a justifiable procedure. It must be added that Knettner does not advise simply letting the disease take its course in such cases; he is of the opinion that some sort of operation must often be done out of humanitarian considerations, to make the short remaining life of the patient more comfortable, just as a gastro-enterostomy does in cancer of the stomach where there is no chance of excising the diseased area in its entirety.

The General Consideration of Surgical Patients.—OCHSNER (*The International Journal of Surgery*, Vol. 15, No. 12).—This experienced operator, and a man of clear judgment, says that he has seen patients lose their lives because the surgeon felt his duty to make a positive diagnosis. Especially is this true where portions of tumors are excised for diagnostic purposes. The pressure that is exercised in examining malignant growths often leads to a rapid spread of the same, which have until this time remained dormant for years. The exploring needle is often the instrument of excessive damage; either it fails to enter a pus cavity which is present, or it spreads along its track the infective material. Operations when the pulse is more than 120 are always dangerous. If an operation is done on an aged person, the patient must be allowed to get up at the earliest possible moment, and such people bear surgery fairly well provided the organs and vessels are in good condition. Infants are good subjects provided there be not too much blood lost, or the operation take too long. Fat individuals never stand surgery

as well as do those of less weight. It is difficult to say which is worse, the tendency to "insane haste" or that to "imbecile deliberation" which characterizes some clinics and hospitals. The article is replete with other suggestions of lesser weight.

The Oxygen-Chloroform Narcosis.—LAUENSTEIN (*Centralbl. fuer Chirurgie*, No. 6, 1903).—The author has been using the Draeger-Roth apparatus in one hospital and the old method in another, having treated one hundred and twenty patients by each. He considers the new method of especial importance where one has to deal with those patients who are the subjects of alcohol. No accidents happened by the use of either method, though the author sees one point of advantage for the newer, in that the anesthetist has more time to watch the pulse, etc. Lauenstein has now returned to the old method, as must every careful worker, since the discovery by Michaelis of the fact that chloroform is decomposed by the contact with oxygen in the apparatus above mentioned.

An Operation for the Radical Cure of Aneurism, Based Upon Arterioraphy.—MATAS (*Annals of Surgery*, February, 1903).—Before any treatment of the aneurism can be thought of there must be some sort of preliminary hemostasis; this is accomplished by the author when he applies an Esmarch bandage, or by the use of Crile's forceps. When no pulsation can be felt longer the tumor is exposed and opened in its long axis. If the growth be of the fusiform variety the first step is to sew up the openings of the vessels which are tributary to it, after which the two parent vascular orifices are in like manner sewn shut with a single row of chromacised cat-gut stitches. If, however, the aneurism be of the saccular variety, then only its mouth is carefully sewn up in the manner just indicated in order that the lumen of the vessel from which it springs may not be encroached upon. All that now remains is now to rub the interior of the sack with gauze, that the endothelium may be made more ready to unite in the same manner that the peritoneum does after an abdominal operation. The author's experience reaches as far back as 1888 and covers four cases; the advantages which he has seen from the method are summed up by him as follows: there is less bleeding, less danger to surrounding structures, less technical difficulty, and less danger of gangrene (where an extremity is involved) than is the case in any other operative treatment of aneurism.

Inflammation of a Diverticulum of the Small Intestine, Simulating Appendicitis.—WALTHER (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 3).—The patient was a female of twenty-five years, who had been taken acutely with all the symptoms which commonly characterize an appendicitis. The little organ was removed and showed no change except that of an folliculitis chronica. However, there was found at the same time a diverticulum eight cm. long, which was firmly attached to the right tube, and showed acute inflammatory changes such as we are accustomed to see in the vermiform appendix. There was likewise a pathological condition present in the contiguous tissues. The author takes it for granted that there had been an infection by stagnation in this pouch which had led to all the clinical and anatomical changes that mark an appendicitis of the acute variety.

A Contribution to the Diagnostic Value of Leucocytosis in Appendicitis.—WASSERMANN (*Archiv fuer Klin. Chirurg.*, Band 69, Heft i and ii).—It is often impossible to tell by any of the ordinary diagnostic means whether or not a case of appendicitis is best suited to surgical or expectant treatment, hence we appreciate the value of the blood count when we understand that it alone can point the proper course of procedure in almost all of these cases. When there are more than 25,000 leucocytes one is always justified in taking it for granted that there

is pus and that an operation should be performed; especially is this true if the number be on the increase. In the Munich clinic the author has been able to verify this in all cases. There has been no single case in which a high blood count has not led to the finding of pus, although in many there were no other symptoms to the operator. However, the reverse of this proposition cannot be considered strictly true, since in a number of cases the ordinary symptoms led to an operation where pus was discovered, although there had been no increase in the number of leucocytes. This is explained in one of two ways: either the patient was so exhausted that the organism could not respond and produce the unusual cells, or on the other hand the abscess was thoroughly encapsulated. The examination was never so conclusive when the abscess was situated in some other part of the body, showing that the appendiceal region has an especial tendency in this direction. In one case pus was found and a fecal concretion with its menace to health and life, even though there were absolutely no symptoms at the time of operation except as revealed by the blood count.

Volvulus of the Small Intestine.—VAUGHAN (*Journal of the Military Surgeons*, Vol. xi, No. 6).—The mortality of twisting of the entire mesentery is seventy six per cent., while the same lesion affecting only a part of the same gives, as might be expected, a much higher percentage of recoveries. The value of the time element in such cases is shown by the fact that all the patients who recovered were operated upon during the first forty-eight hours after the onset. Too much stress cannot be laid upon the idea of ascertaining in a given case the cause of the volvulus, whether or not a tumor, etc., be present, because if there be some such cause and the mass be straightened out without removing the cause the trouble will simply recur. To accomplish this desirable end it may often be necessary to remove all the bowels from the abdomen, but the danger of this procedure is often more than offset by the good which is done the patient in the end.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Specific Sera for the Human Placenta.—W. LIEPMANN (*Deutsche Med. Wochens.*, 1903, No. 5) reports the continuation of his experiments of producing a serum specific for the placental tissues. By immunizing rabbits against sterile emulsions of blood-free (?) placenta he obtained a serum which, in an emulsion of the placental tissue in salt solution, produced a precipitation. This result was seen also in fetal serum (from umbilical cord) and in retroplacental blood serum, but not in the serum of a not pregnant woman, or in other sera. These sera, after the addition of placental tissue, reacted, however. He concludes that from these experiments light may be obtained on the question of deportation of villi into the maternal organism during pregnancy and on its effect. (Although such a consequence may appear justified, it seems more likely that more conclusive results would be obtained by experiments on animals. The reaction, of course, cannot be considered as specific for placental cells, but simply for some substance contained in the fetus. That these precipitations would occur with the immune serum by other tissues of the fetus, or even with the blood, can hardly be doubted. We know already that the receptors and complements of mother and child are different from each other in a number of respects.) The remark that after placental injections sometimes albuminuria occurs, brings up the question of the much discussed albuminuria after diphtheria antitoxin admin-

istration. An analysis of this phenomenon would certainly show that the proteids excreted in these cases are heterogenous (horse) proteins which simply were not assimilated and therefore eliminated.

Epithelial Pearls in the Lingual Papillæ of Man and a Tumor Artificially Produced in the Papilla Vallata of the Rat.—HERMANN STAHR (*Central. f. Patholog. Anatomie*, xiv. No. 1).—The conception that tumors can arise from cell complexes separated from their normal connections in the course of the development of the body begins more and more to gain ground. The efforts to demonstrate these hypothetical complexes have been in many cases successful, but the cases are rare where such groups of segregated cells could be interpreted as growing tumors. Schaffer, in 1897, in examining the papilla vallata of a young child, found here isolated epithelial pearls and even epithelial nests of cells with luxuriant proliferation, invading in a budding way the surrounding connective tissue, in other words, miniature carcinomata. Stahr describes the frequency of these pearls and adds another instance where, also, proliferative changes in them were observed. This reminds one of the miniature cancers that so often are seen in the mixed tumors of the parotis, tumors the fetal origin of which cannot be denied. That under normal conditions these almost regular occurrences are eliminated by retrogressive changes is not surprising. That the papillæ vallata are the seat of predilection for tumor formation Stahr tries to prove by the observation that in white rats fed on oats there is regularly found in the posterior portion of the upper surface of the tongue a massive tumor formation of the character of an epithelioma papillare (fibro-epithelial tumor of Ribbert). Gray rats never showed this and white rats fed on meat or bread do not develop it. Examination revealed that the irritation caused by the stiff hairs of the oat grains was the exciting cause that led to the formation of a typical tumor, although not a malignant one. It is of course not the specific form of irritation by these hairs, but the fact that here for the first time directly a connection between it and the tumor formation could be shown. In a circuitous way of reasoning this connection has for a long time been postulated and almost become an axiom for many new formations.

The Substances Activating the Cobra Venom.—P. KYES and H. SACHS (*Berl. Klin. Wochen.* 1903, Nos. 2 to 4).—After by the work of Flexner and Noguchi the amboceptor character of the snake venom was established, the investigations of Kyes seemed to indicate that besides by the naturally present complements these amboceptors were activated, too, by a peculiar form of complements present within the red blood corpuscles and for that reason called endocomplements. This conclusion was drawn from the observation that blood solutions in distilled water from animals, the sera of which normally do not furnish complement for the amboceptors, acted activating when brought in contact with the amboceptor. A closer study of this peculiar phenomenon showed that the assimilation of endocomplements was erroneous and that the hemolytic action of blood solutions was due to the lecithin present in the blood corpuscles. The inactivation of the blood solutions at 62° C. is brought about through a binding of the lecithin to hemoglobin at this temperature. The most interesting result of this research is that the quantitative relations between amboceptor and lecithin were found correspondent to those between amboceptor and complement. And the authors make it probable that the active group in this combination between lecithin and cobra venom is the fatty acid radical. The paper goes far to confirm the basis of Ehrlich's theory—the purely chemical nature of the hemolytic phenomena.

A New Method of Hemoalkalimetry and a New Hemoalkalimeter.—ARTHUR DARE (*Phila. Med. Journal*, January 17, 1903).—The study of the changes of the

alkalinity of the blood for practical purposes has so far been neglected on account of the uncertain methods used for this end. In a very ingenious way Dare has utilized the fact that the neutralization of a mixture of blood with water is reached at the moment when the oxyhemoglobin bands disappear from the spectrum. He has on this basis constructed a very convenient little apparatus, the description of which is given in the article, in which the neutralization is brought about by a solution of tartaric acid. The spectroscopic analysis is made by Browning's pocket spectroscope. In view of the uncertainty of the arbitrary indicators used in the methods so far employed, the small quantity of blood needed for the examination (20 mm.) and the simplicity of the whole procedure, Dare's hemoalkalimeter may prove a valuable addition to our clinical armamentarium, as proved to be his hemoglobinometer. That in certain pathological conditions a decrease of alkalinity is a characteristic symptom is well known.

The Relations Between the Lymphatics and the Connective Tissue.—(*Bulletin Johns Hopkins Hosp.*, January, 1903).—It is yet the general conception, exposed in every text-book on histology, etc., that there exists a direct continuity between the lymphatics and the so-called tissue spaces. Although the opposition to this view dates back to Teichmann (1861), no altogether conclusive demonstration of the faultiness of this view has been made thus far. We know, it is true, from the classic work of Sabin that the lymphatic system in its totality is derived from the budding of the wall of the vein, but, histologically, the terminal endings of the lymphatic vessels and their intactness has not been within the reach of our methods. McCallum in this paper shows by silver injections into the skin of young pig's embryos, that the endings of the finest lymph ducts are always surrounded by a distinct endothelial wall and are always closed so that there is no direct intercommunication between them and the spaces between the cells of the surrounding tissue. The lymph vessels grow exactly like the capillaries, by the sprouting and excavating of endothelial cells. There are no preformed stomata between these cells, just as little as between those of the capillaries. The appearance in the lymph glands of granular material introduced into the tissues is not due to a direct migration of these substances, but in all cases brought about through the action of cells called phagocytes, of which we have long known that they can penetrate intact endothelial walls. With this demonstration a great number of physiologic and pathologic problems appear in an entirely different light.

About the Immunization of the Typhoid Bacillus Against Specific Agglutinins.—(*Muenchener Medicin. Wochen.*, 1903, No. 2).—The idea to which Welch in his latest Huxley lecture referred and which dealt with the probability that in the fight between pathogenic organisms and the human or animal body, not only the latter, but also the bacterium had to resort to protective measures, is not new, and has in a certain way already been announced by Meschnikoff. Experimentation in this line has so far hardly been attempted (with the exception of Ainley). P. Theod. Mueller undertook the study of the influence of an immune serum on the agglutination of typhoid bacilli. A race of this bacterium was, in parallel series, through a great number of generations, cultivated in bouillon and immune serum solutions. Without entering into the details, the result was that the serum bacilli lost a great deal of their agglutinability and also of their quality of producing agglutinin-binding complexes. This means that instead of a protective increase of the affected receptors their decrease or disappearance was the consequence. Similar phenomena have been observed in the blood corpuscles of animals immunized against the toxin of eel's blood. Aside from the theoretic interest of these experiments they have a practical bearing. It is a fact that a typhoid fever patient's own bacilli sometimes react only slightly or not at all to the action of an agglutinating serum, for the reason that, like in the author's

experiments, they have been exposed in the human body through endless generations to the action of the agglutinin and have lost the specific receptors. It seems, therefore, that a bacillus, isolated from such a case, should not without longer observation, on account of its negative reaction, be designated as non-typhoid.

Some Words About the So-called Physiologic Salt Solution.—FR. ENGELMANN (*Deutsche Medic. Wochen.*, 1903, No. 4) calls attention to the inexactness with which the solution is used. The directions for its composition vary from 0.5 to 0.9 per cent. It is established that a physiologic solution as such does not exist and that the solutions agreeing in their isotonicity with the blood plasma of different animals vary considerably. While 0.65 per cent. solution is isosmotic for a frog, it is hypotonic for man and causes intense enlargement of the blood corpuscles and beginning hemolysis. Each solution should be called physiologic only for the organism for which it is made isosmotic. The physiologic salt solution for man has to contain 0.85 to 0.9 per cent. of sodium chloride.

A Study of the Reticular Supporting Network in Malignant Growths.—P. G. WOOLLEY (*Bulletin Johns Hopkins Hosp.*, January, 1903) reports the results of his work on this subject, for which he used the Mallory connective tissue stain with a slight modification that, as the reviewer can say, is very valuable. Groups of cancer cells are always sharply differentiated from the surrounding tissue, no fibers penetrating into them. In sarcoma the borderline is not defined and connective tissue elements can always be demonstrated between the sarcoma cells. The same obtains for endothelioma, although in a lesser degree, thus confirming the close relation of these cells to the mesodermic tissues. But for the latter point that is, however, subject to discussion, Woolley's report brings nothing new; its merit lies in the application of a method that *a priori* adapted for this purpose had not been utilized for it. It may be that by this method the number of alveolar sarcomata will be still more reduced than it already is.

The Question of the Inclusions In and Between Carcinoma Cells.—W. N. KLIMENKO (*Central. f. Path. Anatomie*, Vol. 13, No. 21).—The paper is essentially a control investigation of the assertions made by Feinberg on certain findings in cancer tissue that he tries to prove identical with protozoic structures. Based on the same method, Klimenko has gone over the subject thoroughly and proves conclusively that none of the assertions of Feinberg are correct and that after his method nothing can be found not explainable in the line of nuclear or protoplasmic degeneration products. The paper is especially valuable because it frankly exposes the method of many investigators to identify, on the basis of morphologic or tinctorial similarity, structures that have nothing to do with each other. The famous bird's-eye appearance of the nuclei of certain protozoa (for instance the malarial parasite), that in the discussion of the German Cancer Commission plays such a great part, is to a degree simulated by certain degeneration products of cancer cells, and this forms the main stronghold of Feinberg, Leyden and others. Klimenko uncovers the essential difference between these formations. After all other attempts to demonstrate a cancer parasite have failed, it is fortunate that his research does away with this latest product, that in its conception bears the mark of unscientific thought.

Cultivation of Tubercle Bacilli from Sputum.—(*Zeit. fuer Hygiene u. Infec. Krankheiten*, Vol. 42, No. 1).—Not on account of the facility of the method this paper, by Carl Spengler, is mentioned here, but because it shows that accidentally it is often discovered where a curious mistake has been made. Tubercle bacilli in the numberless disinfection experiments have been always classed in their

susceptibility to succumb to the action of a disinfectant with other pathogenic bacteria (staphylococci, etc.). And now we learn from a man thoroughly trained and well known by many classical contributions, that tubercle bacilli withstand the action of formol widely longer than staphylococci and their company. Tubercle bacilli in sputum are not killed by a certain concentration of formol for many hours after all accompanying bacteria have been utterly destroyed. Aside from the practical bearing of this fact, on which naturally Spengler lays most stress, he has pressed it into service by using it for a very simple and convenient method for obtaining pure cultures from the tuberculous material. He exposes, for instance, thin layers of sputum in a closed Petri dish lined with filter paper to the action of a few drops of formol poured on the paper. After varying times (varying according to the amount of moisture in it) he removes portions of it to culture tubes and obtains a pure growth. The method is very ingenious and absolutely reliable; it will, for diagnostic purposes, replace the tedious and not altogether certain method of animal inoculation.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Salicylates in Acute Rheumatism.—H. W. SYERS (*Treatment*, January, 1903).—The writer, while admitting the strikingly good effect of salicylate medication on the pain of rheumatism, denies that it has any influence on the course of the disease itself. Its duration is in nowise shortened; the tendency to relapses or to the occurrence of complications such as endocarditis or pericarditis is not diminished. In this respect the alkaline treatment is to be preferred. The writer feels that except as regards our ability to relieve the pain of rheumatism, we are still as helpless in the treatment of the disease as we were half a century ago.

A New Kind of Diphtheria-serum.—A. WASSERMANN (*Deutsche Med. Wochenschr.*, 1902, No. 44).—Behring's diphtheria-serum is a pure antitoxin, which neutralizes the specific toxin of the diphtheria bacillus, but does not affect the bacilli themselves. Besides the true antitoxins, recent advances in bacteriology have made us acquainted with so-called bactericide sera which do not affect the toxins, but attack directly the bacteria themselves. Their chief properties are three: they kill and dissolve the bacteria; they produce the phenomenon of agglutination; they cause a precipitate in a solution of proteids extracted from the bodies of the bacteria. Wassermann has succeeded in obtaining such a bactericide immun-serum from diphtheria bacilli. Diphtheria bacilli were dried, pulverized, then extracted with a 1-1000 solution of ethylen-diamin and filtered. As this solution contains large quantities of diphtheria-toxin, it was necessary to neutralize it by means of a corresponding amount of diphtheria-antitoxin before it could be used for purposes of immunization. Animals were injected with slowly increasing quantities of this mixture. Their serum, if added to a clear extract of diphtheria bacilli, produced a flocculent precipitate such as never occurs when, to the extract of diphtheria bacilli, a normal or an antitoxic serum is added. It has thus been possible to obtain a new serum which, in distinction to the antitoxic sera hitherto known, contains a substance that is able to attack the bodies of the diphtheria bacilli themselves. While this serum will never replace the antitoxic serum, Wassermann believes it will be found useful in hastening the disappearance of diphtheria bacilli from the throat during conva-

lescence. As is well known, the persistence there of the bacilli now make a patient who has recovered from diphtheria a menace to the community for weeks after he is usually considered well.

Therapy and Pathogenesis of Angina Pectoris.—ROBT. BREUER (*Muench. Med. Wochenschr.*, 1902, Nos. 39-41).—The theory of Potain and Huchard, according to which angina pectoris is due to a sudden ischemia of the coronary arteries, is now generally accepted. The ischemia is the prime cause of the attack; the pain and cardiac weakness are secondarily the results of the cardiac anemia.

The drugs used in the treatment of this affection may be divided into two groups: The first are those that are administered during the attack itself. These are narcotics, chief of which is morphine. The latter cannot be dispensed with during a severe attack. In the doses in which it is used for this purpose (0.01 g.-0.02 g.) it certainly is not a heart poison. Patients who die after an injection of morphine for angina, die in spite of the morphine rather than because of it. Besides morphine, the quickly acting nitrites, such as amyl nitrite, nitroglycerin, etc., are used. These combat the cardiac weakness, but are without influence upon the pain, the precordial anxiety or the duration of the attack.

The second group of drugs is used (in addition to hygienic precautions) with the object of preventing the recurrence of the attacks. For this purpose the more slowly acting nitrites, such as sodium nitrites, erythroltetranitrite, nitroglycerin, as also the iodides, are used. Some years ago Askanazy called attention to the value of theobromin in this connection, but without attracting much attention. The writer has tried this drug in the form of the well-known diuretin, and as the result of an experience extending over five years feels that he can entirely confirm Askanazy's findings. It is particularly in true angina pectoris, due to sclerosis of the coronary arteries and of the aorta, that diuretin shows its efficiency. It cannot be used to abort an attack since it is absorbed too slowly. As a prophylactic, however, it is usually superior to the nitrites. It always diminishes the frequency and severity of the attacks, and often entirely prevents their recurrence. Ordinarily it acts only while it is being taken; when it is discontinued, the attacks usually return. Exceptionally, however, its effects seem to have endured for days and weeks after its discontinuance. The other theobromin combinations, such as theobromin natriobenzoic, uropherin (theobr. lith. salicylic.), agurin (theobr. sod. acetic) and pure theobromin itself act in a similar fashion, but are not as efficient as diuretin. At first 3 g.-3.5 g. should be given daily; later the daily amount may be reduced to 2 g.-2.5 g. It is essential to distribute this quantity equably over the twenty-four hours, since many patients, if they are not given any of the drug during the night, have attacks then.

The writer reports a number of interesting cases, among them several of angina pectoris due to overindulgence in tobacco. In these cases diuretin proved itself particularly efficient. This speaks for the correctness of Huchard's view, according to which this form of angina is due to a spasm of the coronaries produced by the nicotine, and might thus be called a functional steno-cardia.

Of particular interest are the cases in which the angina appeared as severe gastric or intestinal colic. The prompt effect of diuretin in these cases speaks for the assumption that we have it here to do with a sclerosis, or a spasm of the intra-abdominal arteries.

For the very interesting discussion of the pathogenesis of steno-cardia and the allied affections, the reader must be referred to the original article.

The Use of Flowers of Sulphur in the Treatment of Typhoid Fever.—J. WOROSCHILSKY (*Therap. Monatsh.*, 1902, No. 11).—A year ago Richmond called attention to the value of sulphur in the treatment of dysentery. The writer was able to confirm these results in a number of cases. The number of stools fell from

forty daily to ten or less, the tenesmus diminished and the stools took on a more nearly normal appearance. Encouraged by this result, he tried the same medication in typhoid fever. He prescribed sulf. depurat., 1.25 g. every two hours for adults; for children, 0.3 g.-0.5 g. at the same intervals. The former thus received about 10 g. daily, the latter 4 g. The drug is always borne well; does not produce diarrhea; on the contrary, diarrhea, if present, is relieved. After prolonged use, constipation is apt to occur, and must be combated by means of enemata. The drug was used in all stages of the disease, from the first to the third week. It invariably produced an amelioration of all the symptoms, in particular a gradual fall of temperature. In one case, in which, up to the seventeenth day, when the use of sulphur was begun, the patient had shown diarrhea, peritoneal irritation, high temperatures (104.5 degrees) and delirium, the use of the drug produced, after three days, an improvement of all the symptoms and a temperature of 102 degrees. Six days after the beginning of the treatment the patient had entered upon the stage of convalescence, with a normal temperature and a pulse of 80. Two other cases, in one of which the treatment was begun on the ninth day, in the other on the fifth day, showed analogous results. In a series of cases not reported in detail, equally satisfactory results were obtained. The drug should be given until all fever has disappeared. The writer explains the beneficial influence of sulphur in typhoid fever as follows: The insoluble sulphur covers the ulcers with a protective covering, and, perhaps, analogously to its action upon cutaneous ulcerations, causes a constriction of the vessels dilated by the inflammation, and possibly encourages epithelial proliferation. Moreover, to a certain extent, it has an antiseptic action. The writer is quite aware that typhoid is a general, not merely a local, infection; nevertheless, anything that influences the local disease favorably, cannot but have a good influence upon the progress of the disease. In severe septic forms not much good is to be expected from sulphur medication.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

A Contribution to the Natural History of Dysmenorrhea.—ERNEST HERMAN (*Jour. of Obstetr. of Brit. Emp.*, January, 1903).—In the author's opinion undue smallness and rigidity of the cervical canal is sometimes a condition underlying, and perhaps causing, spasmodic dysmenorrhea, acting not by causing mechanical obstruction, but by preventing a physiological dilatation of the canal during menstruation. The treatment of these patients consists in the dilatation of the cervical canal. The author bases his conclusion upon a study of sixty-seven cases of dysmenorrhea which were cured by the use of bougies. In forty-three of these patients the pain dated from the first menstruation. The result of this treatment is not materially affected by the length of time the dysmenorrhea has lasted. The diagnosis of spasmodic dysmenorrhea, *i. e.*, of the kind of menstrual pain that is cured by dilatation, can only be made by the character of the pain. The pain felt with menstruation may be of two kinds—a general aching due to the congestion of the pelvic organs, which *precedes* menstruation and is relieved by the bleeding from the uterus, and the sharp spasms of uterine colic. The former is not affected by dilatation, the latter is often cured by it. The pain of pelvic congestion is constant, that of uterine spasm intermittent, very severe, generally accompanied by nausea, and in one-fourth of the cases by vomiting.

The most obvious explanation for the cure of menstrual pain by dilatation of the cervical canal is that the pain was caused by a narrowness of the canal. But the cervix, if not narrow enough to mechanically hinder the outflow of blood, may yet be small and rigid, and not dilate as it should during menstruation; and it is possible that such deficient dilatation or dilatability may be the cause of such painful spasms.

Pathogenesis and Treatment of Dysmenorrhea.—MENDEZ DE LEON, Amsterdam (*Internat. Congress of Gynec., Rome, 1902*).—The mechanical theory of dysmenorrhea can be accepted only for a very small percentage of cases. The spasmodic pains are not due to an obstruction but to a general or partial contraction of the uterus. Out of one hundred and forty-seven patients who sought relief for menstrual pain, one hundred and twenty-eight offered the typical symptoms of endometritis. The spasmodic pain most frequently occurred during menstruation, often in the inter-menstrual period, in the presence of a copious mucous discharge. They could be artificially produced by touching the endometrium with a probe. In this class of cases, classified as endometritis dysmenorrhoea, by the author, the spasm originates from the irritating effect of a diseased endometrium. In fifteen patients the spasms were of a very severe type, usually accompanied by vomiting, headache, dizziness, even syncope. An uterine sound that could easily be introduced into the uterus in the inter-menstrual period, if introduced during menstruation met with an unyielding obstacle at the region of the internal os, produced by spastic contraction. The writer calls this form of dysmenorrhea, hysterospasmus. It is usually met with in the presence of some disturbance of the nervous system, as hysteria or neurasthenia. In his opinion, in these instances the uterine contractions during menstruation, which are not felt by healthy individuals, become painful on account of the increased sensibility of the patients. The writer believes in the existence of an ovarian dysmenorrhea. The treatment of the endometritis dysmenorrhoea consists in the treatment of the endometritis. The hysterospastic type of dysmenorrhea is cured by a wide dilatation of the cervical canal until a complete paresis of the internal orifice is procured. The writer uses a laminaria tent for the first twenty-four hours, and continues dilatation until a Hegar dilator No. 18 or 20 can be introduced. Then for two months a dilator No. 8 is introduced twice a week. If the pain returns the dilatation is repeated. The results with this mode of treatment were in the hands of the author very satisfactory.

On the Formation of Peritoneal Adhesions After Laparotomy.—PERNHORST (*Inaug. Dissert.; rev. Centralbl. f. Gyn., No. 6, 1903*).—The following precautions are carefully observed in Werth's clinic in order to prevent the formation of peritoneal adhesions after abdominal operations: Every raw surface or stump is covered as well as possible with peritoneum; the peritoneum is closed in the incision in a special layer by means of a suture which turns the edge outward; the incision is made small in order to avoid infection from the air; before the laparotomy wound is closed some fluid is injected into the bladder. Pernhorst reports in this paper the results of these prophylactic measures, as observed in sixteen cases, either at the time of a second laparotomy or on the post-mortem table. There was a complete absence of adhesions in four instances. Adhesions were quite extensive in four cases, three times situated at the ligated stumps. The following mode of adhesion was found each in one case: between abdominal scar and intestines; between posterior wall of uterus and small intestines; between ovary and intestines; between fundus uteri and abdominal scar. If there was an elevation of temperature after operation, during the convalescence, adhesions always were present. The cause for the development of peritoneal adhesions is a localized inflammation which seems to be unavoidable even by the most painstaking aseptic precautions.

The Micro-organisms in the Vaginal Secretion of Pregnant Women.—H. BERGHOLM (*Archiv fuer Gyn.*, vol. lxvi, part 3).—The reaction of the vaginal secretion was found to be acid in every instance, the degree of acidity, however, was varying within wide limits. A division into healthy and pathological secretion from macroscopical aspects is not feasible. Most of the bacteria found are bacilli, the cocci being in the minority. Those usually met with in the vagina of the pregnant woman did not show any pathogenic effects upon animals. In no instance could be cultivated the staphylococcus pyogenes albus or aureus, or the streptococcus pyogenes, or bacterium coli. The bacteriological character of the vulvar secretion is considerably different from that of the vaginal, the former very frequently containing the staphylococcus cereus and bacterium coli.

Traumatic Keratitis in the Newborn.—THOMSON (*rev. Journ. of Obstetr. of Brit. Emp.*, February, 1903).—The author records three cases of keratitis in the newborn. In each instance there was a history of a difficult forceps delivery in a case of contracted pelvis, with some bruising of the upper eyelid and subconjunctival hemorrhage, the injury having apparently been caused by the forceps. The condition was noticed soon after birth; the cornea appeared hazy and opaque. In the course of three months the opacities underwent a remarkable change and a white linear scar was found extending almost vertically downward across the cornea. In one case seen a year after the injury the scar was still visible but rapidly disappearing.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Prognosis of Tuberculous Peritonitis in Children.—SUTHERLAND (*Archives of Pediatrics*, February, 1903) bases his remarks on forty-one carefully studied cases. The total mortality was 26.8 per cent. Comparing the results of medical and surgical treatment, he found that of twenty-seven cases treated medically, twenty-two, *i. e.*, 81.3 per cent., recovered; of fourteen cases treated surgically, seven, *i. e.*, 50 per cent., recovered.

He does not believe that the course of the disease is appreciably affected by simple laparotomy. His general conclusions are:

1. In uncomplicated cases, or cases complicated only by tuberculous pleurisy, the prognosis is favorable.
2. Unfavorable prognostic points are: (a) bad family history, (b) infancy passed under bad hygienic or dietetic conditions, or a history of severe infective illness in early life, (c) feeble constitution.
3. Unfavorable prognostic symptoms: Continuous pyrexia, rapid wasting, persistent diarrhea, rapid pulse, recurring exacerbations.
4. Unfavorable local complications: Tubercular ulceration of bowels, extensive caseation or suppuration of lymph nodes, obstructive symptoms from bands or matting of intestine.
5. Most unfavorable complications: Rupture of suppurating lymph node into peritoneal cavity, pulmonary tuberculosis, tuberculous meningitis, general miliary tuberculosis.

Serum Exanthems.—MONTI (*Archiv fuer Kinderheilk.*, Vol. 35, p. 390) discusses the cause of serum exanthems. He says that his own previous explanation, that the exanthems were streptococcus infections, is certainly not true. Nor can the small amount of carbolic acid in some of the sera explain the eruptions,

seeing that they have followed the administration of sera which contained no carbohc acid.

The correct explanation was first given by Oertel, namely, that the exanthem is the expression of an intoxication due to the injection of a proteid containing fluid (blood serum) of an animal of different species. Johannesen confirmed this theory by injecting simple sterile horse blood serum into twenty-two children. In twelve of these he produced exanthemata of various kinds. Monti has made a series of similar experiments. He found that he was able to produce intoxications, with constitutional symptoms and eruption, by injecting comparatively large quantities of horse serum. He found that a distinct relation existed between the amount of serum injected and the onset of symptoms; the larger the amount, the more often its injection was repeated, the greater the reaction. It is noteworthy that since the introduction of the concentrated sera, up to eight hundred or one thousand units per c. c., the serum exanthems have diminished decidedly. This is to be explained by the smaller amount of serum necessary to get the same antitoxic action, which formerly required ten or more c. c.

Heroin in Diseases of Children.—PRICE (*Philadelphia Medical Journal*, February 14, 1903) considers heroin of great value where antispasmodic and sedative medication is required in childhood. He has used it with much success in cases of bronchitis, pertussis, false croup, convulsions from intestinal disturbances, incontinence of urine, chorea and asthma. He prefers the hydrochloride to the alkaloid itself, and his dose is one-two hundred and fortieth of a grain for a child a year old; dose for other ages in proportion. He has seen no untoward effects following its use, it has no cumulative action in the system, and it is compatible with expectorants and with other antispasmodic and sedative remedies.

Antipyresis in Children.—SAUNDERS (*Pediatrics*, January, 1903) believes that no method of antipyresis should be used for children to the exclusion of all others. While hydrotherapy should take first place, he finds that it often may be combined with other measures to advantage. The analgesic effect of the coal-tar products makes them very valuable, and when properly used they are free from danger.

In the early stages of scarlet and other exanthemata the combination of phenacetine and camphor is often very useful. Pilocarpine is both an eliminant and antipyretic in diphtheria and scarlet. When the fever is very high, hydrotherapeutic measures may be instituted in addition.

In pneumonia veratrum viride is a valuable antipyretic, and, when cautiously used, perfectly safe.

The external application of guaiacol also acts well, especially in typhoid and tuberculosis. With care in its use there is little danger of depression, but the dose must be small, one to three or four drops being the dose for infants.

Of the hydrotherapeutic measures, the author considers the wet pack the most generally serviceable.

Treatment of Scarlet with Scarlet-Streptococcic Serum.—MOSER (*Jahrbuch fuer Kinderheilk.*, Vol. 57, January, 1903) reports the results of his work with a scarlet-streptococcic serum during the past few years. He regards it as probable that the specific germ of scarlet belongs to the streptococcus group, although he does not think that this fact has been definitely established as yet. He has succeeded in obtaining pure cultures of streptococcus from the heart cavities just after death in sixty-three out of ninety-nine cases. Twice he obtained growths from the cerebro-spinal fluid intra vitam. Although the germs were not pathogenic for small animals usually used for experimentation, he found that injection into horses caused local infiltration and rise of temperature. He, therefore, proceeded to immunize horses systematically. The horses were treated with a mixt-

ure of live cultures of streptococci, grown from the blood of scarlet fever patients. These cultures, often as many as ten different ones, were injected in increasing doses, at first intravenously, later subcutaneously. After having continued the process of immunization for months, the horses were bled, and the serum, without addition of carbolic acid, used for therapeutic work. The attempt was made to use the serum on the severer cases, and the injections were made as early as possible. The results showed that the best results were obtained when the injections were made very early.

The general symptoms were favorably influenced by the serum, and it was noted that the percentage of certain complications, nephritis, sepsis, etc., was smaller.

Very large quantities of serum (180 c. c.) were injected, and this dose sometimes repeated. According to Moser, bad effects, that is serious ones, did not follow the use of these large doses.

Eighty-four cases have been injected; of these, sixteen died, a mortality of 19 per cent. It is, of course, to be remembered that only the severest cases were injected, as a rule. The total number of cases of scarlet admitted in 1901 was three hundred and eighty-nine, with thirty-five deaths, a mortality of 8.9 per cent.

The Effects of Tight Diapers.—COTTON (*Archives of Pediatrics*, February, 1903) believes that improper clothing may interfere with growth by impairment of function, and may also cause actual deformity by compression upon plastic tissues in their formative periods. He shows by skiagrams the compression of the pelvis that results from the pinning of diapers of unyielding material too firmly around the hips of a young infant, and believes that such compression continued over a long period of time might lead to retardation of pelvic development.

He also thinks that the thorax may be restricted in growth by prolonged compression.

The practice of wadding a large amount of inelastic diaper material between the thighs is also to be condemned, and the author thinks that many cases of genu valgum have their origin in this cause.

To obviate these dangers the diaper should be light, made of absorbent cotton covered with cheese cloth.

The clothing of the infant should be arranged to be supported from the shoulders, doing away with binders. Knitted, seamless underclothing, without seam or band, and sleeveless slips, are allowable.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Late Appearing Hysterical Attacks in Epilepsy.—J. S. HERMANN (*Monatsschrift fuer Psychiatrie u. Neurologie*, No. 1, 1903).—Two cases of epilepsy are described in which, at a very late stage of the disease, rare and peculiar hysterical symptoms developed. The first patient suffered from epilepsy for twenty—the second for eighteen years, before the first symptoms of hysteria appeared. In both patients the hysterical attacks preceded the epileptic by a few days; they were never coincident. In one case no prodromata were to be observed, while in the other, before the hysterical attack, headache and general malaise formed a definite prodroma. In both cases the hysterical attack was of the grand

type. In the first case the chief symptoms were contractures of all four extremities, aphasia and analgesia distributed in very typical areas. In the second case, mutism, persisting at times for two weeks, and cataleptic attacks were the prominent symptoms. In considering the question of etiology, the author is inclined to believe that, together with the natural hereditary tendency, the presence of epilepsy itself was the most prominent factor in the causation of the hysteria. This is very probable on account of the absence of any definite factors other than these for the causation of the late appearing hysteria.

A Study of the Modes of Onset in Eighty Cases of Disseminated Sclerosis.—MACKINTOSH (*Rev. of Neurology and Psychiatry*, Vol. i, No. 2, 1903).—On account of the difficulty of diagnosing multiple sclerosis in its early stages, a study of the modes of onset, noted in a large series of cases, should be interesting and of considerable practical value. This difficulty of early diagnosis is due, mainly, to two facts: first, that the modes of onset are so many and so varied, and often so similar to the symptom complex of other recognized diseases, and second, that the disease may run its course for months or years before any of the so-called cardinal symptoms appear, if ever they do manifest themselves. This paper is based upon a series of eighty cases, a very large number when it is considered that only such were included as exhibited some of the so-called classic symptoms, such as tremor of the arms in 83 per cent., nystagmus in 81 per cent., optic atrophy in 47, and scanning speech in 20 per cent. The earliest symptoms noted in this series were as follows: Motor paresis in forty-five cases, sensory symptoms in twenty-nine, ataxia or tremor in twenty, sphincteric troubles in five, apoplectiform attacks in three cases, cerebral symptoms of various sorts in nineteen cases. The foregoing analysis brings out the following points: (1) The extraordinary variability of the modes of onset. (2) The comparatively large number of cases with acute or sudden onset. (3) The frequent occurrence of purely unilateral symptoms. (4) The comparative frequency of the occurrence of sensory symptoms, either alone or combined with other symptoms.

On the Motor Cortex.—CLARENCE B. FARRAR (*Am. Jour. of Insanity*, No. 3, 1903).—This paper treats of cerebral localization in the light of some of the most recent work on the subject. The existence of a motor cortex and of a specific anatomical structure of the same are considered as facts. A careful analysis of the literature on the subject is given, with an especially clear exposition of the theories of Fleschig. For this reason, if for no other, this paper is of value. The following is a resume of the author's conclusions: The motor cortex occupies the middle region of the hemispheres, intermediate between the general and special sensory areas on the one side, and the specific association or psychic center on the other. This zone is the earliest to functionate and the central sulcus forms to give increased room for its developing elements. Beginning with the observations of Hitzig, that the motor area embraced nearly one-half of the brain surface, its confines have gradually become narrowed. It has long been assumed roughly to include both central convolutions and the paracentral. Fleschig discovered embryologic differences which he believed justified him in considering the post-central the seat of general incoming sensory impulses and the adjoining precentral the seat of outgoing motor impulses. That a motor type of cortex exists is abundantly proved. It is characterized by its usual width, dependent upon the marked development of the medium size pyramidal cell layer, containing the specific plexus of Cajal, by the absence of a clearly defined granular zone, and by the presence of giant cells in the sixth layer with thicker and denser radial bundles and a richer development of the overlying tangential fibers, which are of maximum density.

The Action of Hedonal on Animals.—LAMPSAKOW (*Neurolog. Centralbl.*, No. 2, 1903).—Hedonal is the complex organic substance of the ethyl group, derived from the urethan series by replacing it by a higher alcoholic radical. From a large number of experiments on various animals of different species the author draws the following conclusions: (1) Hedonal is a powerful and harmless hypnotic. (2) It is four times as active as urethan and possesses the good qualities of the ethyl group without disturbances of the circulation or respiration. (3) Hedonal can be used in large quantities for narcosis in many physiological operations and in small quantities before the beginning of a chloroform narcosis, with the object of making the latter easier. (4) In anemia and in weak individuals, as well as in those who suffer from various heart affections, hedonal can be considered a safer hypnotic than chloral. (5) Hedonal can be given internally or per rectum, but not subcutaneously.

The dose for human beings is from 0.05 to 1.0 gram.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. MCC. JOHNSON, M. D.

A Cystoscopic Demonstration Apparatus.—KUTNER and KOEHLER (*Centralblatt f. d. Krank. d. Harn- und Sex. Org.*, January, 1903).—Recognizing the difficulty of demonstrating to another a cystoscopic view, the authors present an apparatus which may be attached to any cystoscope by means of which one can see the same cystoscopic picture at the same time as the operator. Owing to the difficulty of holding the cystoscope steady, and to the movements of the patient and his bladder, it is not an easy task with the ordinary cystoscope to show a certain bladder picture. The attachment consists of two telescopic tubes joined at right angles, and is attached to the cystoscope so that one tube is in the same axis as the cystoscope, through which the operator looks, while the student looks through the other tube at right angles to that which the operator uses. By a system of lenses both see the same object.

Uretero-Cystostomy, With Traction on the Ureter.—SMITH (*Northwest Medicine*, February, 1903).—In order to secure firm union between the bladder and ureter in aretero-cystostomy where there is loss of ureteral substance, and traction upon the ureter is necessary, the author proposes an operation which he has found satisfactory for this purpose through experimentation upon dogs. He demonstrates that a suture passed through the entire wall of the ureter will withstand much more traction than if only the muscles are included, and that the danger of calculous formation about such a suture is theoretical rather than practical. The operation he employs is an oblique implantation of the ureter into the bladder by his own technique, which is fully described.

In a series of experiments in which he excised a portion of the ureter, and thus made a uretero-cystostomy, he obtained secure union between the ureter and bladder under a very great degree of tension. But, in nearly all, some degree of interstitial nephritis of less degree was also found in the other kidney. In order to determine whether traction on the ureter was responsible for these results, he undertook a second series of experiments, in which the ureter was simply severed at its normal site and implanted at the fundus without loss of substance, with practically the same unfavorable results in the kidney. This seems to exclude traction on the ureter as the sole cause of the kidney affection. He suggests the severing of the vessel and nerve supply to the ureter as a probable causal factor.

Judging from these experimental results, he is led to speculate whether in operations on man reported as successful there may not have ensued a subsequent nephritis and atrophy of the kidneys on the side of the operation, unknown to operator or patient.

On the Value to the Surgeon of Some Modern Methods of Renal Diagnosis.—BRYSON (*Med. Bul. Wash. Univ.*, January, 1903).—When used in conjunction with the cystoscope, and according to his technique, the author finds the Harris segregator of distinct value in the investigation of reno-ureteral as distinguished from vesical cases, and even in the differentiation of renal from abdominal tumors.

After discussing cryoscopy and the phloridzin test and quoting cases in illustration, these deductions are given:

First.—The fact that hematocryoscopy requires the withdrawal of about 25 c. c. of blood, limits the clinical application of this test somewhat, and its value has not yet been demonstrated.

Second.—Urinocryoscopy, in association with the separation of the urines, is of distinct value, especially in connection with hematocryoscopy.

Third.—The phloridzin test is a very delicate and valuable one for investigation of the functional capacity of the kidney.

Fourth.—The phloridzin test is not difficult of application, and should be made whenever possible before doing an operation on the kidney.

Fifth.—Until further observations the freezing and phloridzin tests should be made separately. The polyuria, often caused by injection of phloridzin, may modify the freezing point of the urine from the healthy kidney.

Sixth.—These tests should be regarded only as aids to diagnosis, and as in no way taking the place of well-established means of clinical reckoning.

The Value of Linear Electrolysis in the Treatment of Strictures of the Urethra.—MORAN (*Ann. des. Mal. des. Org. Genito-Urin.*, January, 1903).—With an unprejudiced mind the author has undertaken, through experiment, to judge of the value of linear electrolysis as a treatment for strictures of the urethra, being forcibly impressed by the marked divergence of opinion among authors as to its efficiency. If one attempts to treat all strictures by this method he will get into serious difficulties, especially with those so hard, long or tight as to demand either a considerably intense current, or much force brought to bear upon the instrument. The following technique is advised:

The urethral stricture should measure at least No. 10 (Charriere), if not, it should be dilated to this point. Use the usual cleansing precautions of the urethra and inject 1 per cent. sol. cocaine. Never employ a current of an intensity more than ten milliamperes. Never prolong the electrolytic action beyond some seconds, at most three minutes. Never force the instrument to penetrate into the urethra, but simply delicately guide it. Return the blade of the electrolyzer upon the wall opposite to that which has been electrolyzed as the instrument passed in, thus utilizing the electrolytic action upon both walls of the urethra, and thus increasing its favorable action. If the stricture remains resistant under these conditions, employ internal urethrotomy.

Electrolysis does not produce a radical and definite cure of the strictures, but is, indeed, a simple, easy, painless and almost bloodless method of enlarging certain strictures, but does not take the place of subsequent dilatation to prevent recontraction. We should then not promise absolute cure to the patient. With the author electrolysis has been done easily, without the least accident, without the slightest febrile reaction, even in cases with genito-urinary tuberculosis, and with infected prostatitis. Its advantages over internal urethrotomy (more acceptable to the patient, absence of pain and hemorrhage, uselessness of lying in bed and of the *catheter a demeure*, absence of grave complications) will cause linear electrolysis to supplant internal urethrotomy in many circumstances.

The Treatment of Prostatic Hypertrophy.—SMITH (*Yale Med. Journal*, January, 1903).—A consideration in this article to be specially noted is the author's manner of dealing with that class of cases where the emergency of complete obstruction exists, where there is extreme cystitis, or where contraindications to general anesthesia are present. He employs the simple operation of external urethrotomy and drainage through the perineal incision, this being done under local anesthesia with but slight shock or hemorrhage. All of thirteen patients survived the operation, some of them in extremes from sepsis, with extravasation of blood and pus from a ruptured urethra, and even with sloughing scrotum and burrowing of pus up the inguinal canals.

Ureteritis in the Female.—GARCEAU (*Amer. J. Med. Sciences*, February, 1903).—This excellent article embraces practically all that is known of diseased conditions of the ureter and their treatment. The author considers the symptoms, methods of diagnosis and treatment of simple, obstructive and tubercular ureteritis. While he has nothing especially new to present, the twenty-six pages of the journal which he occupies, being more or less a compilation of what has been done in this line, is full worthy of the space it takes up. Particular attention may be called to the sixteen cases of total nephro-ureterectomy with one death only, which he has collected from literature. The results were most excellent.

Although a tuberculous ureter will sometimes atrophy, in view of the favorable results in total or partial nephro-ureterectomy here reported, it encourages the author to believe that in tuberculous conditions this operation will be more commonly done in the future.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Dermatitis Coccidioides.—D. W. MONTGOMERY, M. D., H. A. L., RYFKOGEL, M. D., and H. MORROW, M. D. (*The Journal of Cutaneous Diseases*, January, 1903).—Although Dr. Montgomery had previously seen three patients with this disease, he did not recognize it when he first saw this patient, indicating how widely clinical appearances vary in different cases.

The patient, fifty years old, born in Switzerland, had resided in San Francisco since seven years of age. He had never lived in the San Joaquin Valley, where three of the former patients seemed to have acquired the disease. The trouble began as a gradual enlargement of the left hand and forearm, seven years before. The next year the left leg and ankle began to enlarge. Four years thereafter there appeared an eruption on the chest, later upon the left hand and arm, neck, ears. Upon examination there was hypertrophy of the skin and subcutaneous tissue of left arm, hand, both legs and left foot. Over chest and abdomen pigmentations like that from lichen planus were distributed. On the left forearm and hand there was an eruption of papules, pustules and nodules, all discrete, but thickly placed. There was a pustular folliculitis of the neck so dense as to form a boggy mass. The right ear was tense and swoller and resembled an acute eczema. There was a superficial elephantiasis of the extremities involved and the skin was covered by capillary overgrowth with thickened horny layer. Patient died nine years after commencement of disease and two years after author's observation.

Post-mortem, the lungs showed in places miliary tubercles. Cultures from the diseased areas all grew a fungus which has a double cycle of growth, one in the tissues and one in culture media. In the tissue the organism takes the form of a sphere between three $\frac{1}{2}$ m. and 5 m. The sphere is surrounded by a clear double contoured capsule, and in fresh specimens this outer capsule is covered with spines. The larger spheres are filled with granules or spores. No micro-pyle is seen in capsule, as in the coccidia.

In culture two or three mycelial threads spring from a moderate sized capsule which branch and form a mould fungus.

Inoculation into guinea-pigs proved fatal.

In the skin there was a slight hyperplasia of the rete with processes growing down into the corium. The corium had a diffuse cellular infiltration extending into subcutaneous tissue. Giant cells were occasionally found. The infiltration consisted of plasma cells and leucocytes. Abscesses in the rete so characteristic of blastomycosis was rarely found.

A Rare Seborrhoeide of the Face.—J. J. PRINGLE (*Brit. Jour. of Dermatology*, February, 1903).—Pringle describes a rare clinical type of a seborrhoeide of the face which, however, is familiar to us here in St. Louis, not only in the exact form described by the author, but of varied symptoms, taking the case in question as an example or type.

Dr. Pringle's case presented an obvious rosaceous condition and several telangiectasis. The characteristic feature is the presence of innumerable small, nodular prominences, which are superadded to the rosaceous condition and cover the whole face, as well as the contiguous part of the neck. They vary in size from a pin point to a split pea and are closely aggregated and contribute to the bright red color of the part. They are in myriads over the forehead, every follicle being apparently picked out by them and impart a sensation of roughness to the finger. Over the cheeks the lesions are larger and more sparse in distribution. They arise abruptly from the surface and are firm to the touch. Their rounded summits reflect light, giving them the appearance of vesicles. The majority are bright pink in color, but under pressure are gelatinous or colloid. Nowhere is there any comedo formation, pustules or vesicles, nor signs of atrophy or pitting. The scalp shows a slight dry seborrhea. There is no acne or sebaceous disorder of back or chest.

Microscopically the small elevations correspond to a pilosebaceous follicle. There are no plugs in the follicle, as in acne. The horny layer is normal and there is no acanthosis. Around the follicle and in the corresponding deeper parts there is an extensive infiltration of cells, consisting of mononuclear and polynuclear leucocytes and connective tissue corpuscles. No micro-organisms were found.

Histogenesis of Scales and Crusts.—R. SABOURAUD (*The Jour. of Cutaneous Diseases*, February, 1903).—The words scales and crusts are constantly used, yet how few physicians understand their structure and genesis. The usual idea of a scale is that it is the abnormal overproduction of the normally exfoliated layer of the epidermis. This is only a part of the truth, for the scale so defined is that of ichthyosis, rather a malformation than a disease. But to understand the scale it is necessary to understand the crust; the general idea of this is that it is formed from the effusion at the surface of fluid (serum) and its concretion externally. This elementary idea is wrong, as it is formed by keratinized layers of epidermis as well as the scale, besides containing other elements as serum, leucocytes, and maybe pus and extraneous matter; and scales are usually the product of both effusion and desquamation, and are scale-crusts.

It is interesting to study the mechanism by which the serous and leucocytic exudation is joined to the epidermic exfoliation to form the scale as well as the

crust: 1. Exocytosis, a transmigration of leucocytes through the entire thickness of the epidermis, which are poured out upon the skin at its surface or at the level of the horny layer. This occurs in diseases which dermatology in nowise classifies among the exudate diseases, and which are absolutely superficial under the microscope. This phenomena occurs especially in squamous states, but exists in the most superficial, ordinary and insignificant skin lesion, which is a fact new in dermatology, but has been known to constantly occur in all mucous membranes. This afflux of leucocytes to the surface, and which assists materially in the formation of the scale, is always seen in parasitic diseases and in traumatic conditions (mechanical and chemical) and in diseases in which no organism has been found; therefore the reasons for this exodus of leucocytes are not known. 2. Exoseroses is the exudation through the epidermis and at its surface of a serous liquid coming from the derma. It is analogous to the "spongy state" of the epidermis described by Unna, and is connected strictly with vesiculation. But the particular state to which the writer calls attention is the accumulation of serum just under the horny layer, and there concretes into a coagulated, solid mass, which gives rise to various clinical and histological figures. It is difficult to explain the immediate cause of this phenomena, as it occurs in parasitic as well as non-parasitic skin diseases. 3. Hyperkeratosis is the skeleton or scaffolding for the formation of all scales and crusts. In studying a piece of skin the fact must be constantly kept in mind that all these cells, surprised and fixed in a moment of their activity, would not be found in the same places if the same piece should be taken a few hours later. Because the mass of epidermic cells are animated by a constant ascending movement. To-day exoserosis conducts the serum to the level of the corneous layer, to-morrow it will dry and form an elevation at the surface of the skin, the day after a new corneous layer will be formed under it and we should have a scale or a crust, composed in its center of a block of dry serum and above and below of epidermis.

The processes above described may be observed conjointly or one without the other.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Collodion After Nose Operations.—PISCHEL (*Archives of Otolaryngology*, Vol. xxxi, No. 5).—The author, instead of packing the nose with gauze or other material to prevent hemorrhage after the removal of turbinal hypertrophies or other nose operations, drops collodion upon the wound, while an assistant blows compressed air into the nose to accelerate evaporation. All bleeding is first checked with adrenaline. The collodion must be dropped on the wound slowly and carefully so that it does not run down into the pharynx, which would make the patient gag and cough. The writer uses a small metal tube 9 cm. long and 1 mm. thick, with a tulip tip to which the bulb of an ordinary medicine dropper is attached. One filling of this bulb is usually sufficient. This collodion dressing was tried in thirty-one cases, and not in a single instance was there any hemorrhage, and caused no inconvenience to the patient.

The Significance of Snoring.—VEIS (*Archiv fuer Laryngologie und Rhinologie*, Band 13, Heft 3) calls attention to the lack of literature on the above subject, and states that it has received mention only in connection with mouth-breathing, without ascribing any special pathological significance to the snoring itself.

There are, according to the author, two kinds of snoring: one with the open mouth, the other with the closed mouth. The latter occurs only in adults, and only during inspiration, especially in corpulent individuals with short necks and fleshy tongues. When asleep the palate and especially the uvula are relaxed, and during inspiration are drawn down, producing the snoring. The direct cause of the snoring with the closed mouth is not definitely known, but the author believes it is due to difficult nasal breathing, and his explanation is that when the nasal passages are not entirely free the air passes through the nose and pharynx with a much swifter current, and in that way the palate and uvula are drawn downward, producing the noise, the same as when one attempts to clear the naso-pharynx.

Snoring with the open mouth occurs during both expiration and inspiration, and is produced by the movements of the uvula and palate, the direct cause being, in most cases, obstructed nasal breathing. This occurs at times in individuals who have, apparently, no nasal obstruction, but when in the recumbent posture the nose becomes occluded, totally or partially, this being due to a congestion or overfilling of the cavernous tissues. Again, snoring may occur when there is no nasal obstruction, but when asleep the muscles of the jaw relax and mouth opens, especially when the mouth is not tightly closed before falling asleep.

The symptoms which the author attributes to the snoring are caused by the backward and forward movement of the palate, and especially the uvula, causing a thickening and elongation of the latter, which may reach twice its normal size. Its color may be pale, edematous or dark red. This redness may extend over the entire posterior pharyngeal wall. The appearance is so typical that a diagnosis is easily made. These individuals complain of a burning, tickling, or feeling of foreign body in the throat, frequent desire to swallow, and frequent attempts at clearing the throat are made, thereby keeping up the hyperemia. The catarrhal condition extends upward to naso-pharynx and Eustachian tube, and below to the larynx and bronchi, causing well-known symptoms.

The successful treatment depends on the establishing of free nasal respiration and the sleeping with the mouth closed. The first condition is met by removing all abnormalities in the nose and pharynx, such as adenoids, polyps, hypertrophies, etc., and the latter by applying a suitable support to the jaw until the habit is overcome, which the author claims can be accomplished in from eight to fourteen days. Alcoholics and tobacco should be withdrawn and the condition of the bowels attended to. The results of the treatment of snoring with the closed mouth are not so flattering as that of the open mouth, but much can be accomplished if free nasal respiration is established and the general health looked into. If the uvula is much elongated, uvulotomy will have to be resorted to. By the curing of the snoring many cases of so-called incurable chronic pharyngeal catarrh can be easily and permanently relieved.

The Use of the Gelato-Glycerin Bougies in the Treatment of Acute Earache in Young Children.—RICHARDS (*Jour. A. M. A.*, January 24, 1903).—The author has for the past four years been using gelato-glycerin bougies in the treatment of acute earache in young children, especially in the early stage of acute otitis media, and in acute otitis externa with the best results. Cases which have gone beyond an early stage are not relieved by this remedy and demand treatment appropriate to the condition, whether paracentesis or otherwise. Even when paracentesis is performed, the insertion of the bougie immediately after will be of great relief and has distinctly curative value.

These bougies were originated by Professor Gruber, of Vienna, and later strongly advocated by Woods, of Dublin; but as neither of these authors gave the exact proportions of the glycerin and gelatine, their manufacture heretofore

had been attended with many difficulties. The author, with the aid of an apothecary, has solved the difficulty and gives a correct working formula and one that any pharmacist can use, viz. :

R	Acidi carbolici.....	7 minims
	Fl. ext. opii.....	6 minims
	Cocaini.....	3 grains
	Atropini sulphatis.....	3 grains
	Aqua.....	52 minims
	Gelatini.....	18 grains
	Glycerini.....	158 grains.
	To make 42 bougies.	

The glycerini must be dehydrated. The bougie when prepared is kept in lycopodium or wrapped in tin foil. To use, the powder is washed off in warm water, or if wrapped in tin foil they are dipped in warm water. The bougie being very slippery is then slipped down into the external canal of the affected ear. The bougie soon dissolves, the anodyne is brought directly into contact with inflamed surfaces and the pain is relieved.

The Ear Complications of Typhoid Fever.—SCHUMACHER (*Wratschebnaga Gasetta*, No. 19, 1902; rev. *Zeitschrift fuer Ohrenheilkunde*, Band 42, Heft 1).—The author examined the ears of one hundred typhoid patients in the Children's Hospital of Oldenburg. These examinations were made regularly during the course of the disease. His conclusions are as follows: First, pathological changes occur in the ears of children in 47 per cent. of the cases during the course of typhoid fever, and in 78 per cent. of the cases where injection of the vessels of the tympanum are taken into consideration, or ten times oftener than in adults; second, the number and intensity of the ear complications are in direct relation to the severity of the disease; third, the infection occurs through the Eustachian tube and through the blood; fourth, cleansing the naso-pharynx by means of syringing must not be attempted, owing to the danger of forcing infectious material into the ear through the Eustachian tube; fifth, the ears of typhoid patients must be examined regularly. The neglect of these rules will often result seriously for the patient.

Chronic Nasal Catarrh in Its Relation to Asthma.—FARRELL (*International Medical Magazine*, February, 1903).—In the search for the underlying cause of the bronchial spasm, eliminate cardiac trouble, renal disease, gastric and intestinal disturbances, chronic bronchitis, rheumatism, gout and all dyscrasias of the blood, and then examine the nose and throat. Whatever may be the pathology of asthma, the exciting cause is frequently found in the nasal chamber. The author states that many cases of asthma are directly due to neglected nasal catarrh, and that fully 80 per cent. of his cases of asthma are cured by removing the abnormal conditions of the naso-pharynx, usually classed under the general head of chronic nasal catarrh; of the remaining 20 per cent. about one-half, or 10 per cent., are greatly benefited. The attacks are no longer feared and pass away in a few minutes, as a rule. The remaining 10 per cent. receive but slight relief. One point the author wishes to make, and that is that many patients that consult him for asthma claim that they have no nasal trouble and that they breathe freely through both nostrils. Examination of the nose often reveals nasal polypi in great numbers in just such cases.

On Certain Intermittent Swellings in the Nose and Their Treatment.—MUCK (*Archiv fuer Laryngologie und Rhinologie*, Band 13, Heft 3).—The cavernous tissues in the nose are often the cause of pathological conditions which manifest themselves in occlusion of the nose and a sense of fullness in the head. The patients state, as a rule, that the nose is stopped up only at times, and that they are frequently compelled to sleep with their mouths open. The rhinoscopic ex-

amination fails to elicit anything abnormal in the nasal chamber, as the psychic influence of the examination causes a contraction of these tissues. The post-rhinoscopic examination reveals the posterior ends of the inferior turbinates very pale and slightly enlarged with uneven surfaces, but not coming in contact with the septum the patients being able to breathe freely through the nose. In order to relieve this condition the author, by means of the cold snare, removes this enlargement at the posterior ends of the turbinates without applying any anesthetic. The enlargement is not cut off with the snare but is caught in the snare and then pulled out so that a part of the mucous membrane is also removed with it. The pain is insignificant and the bleeding very slight, and healing takes place in a few weeks and the nose always remains free.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

The Ocular Manifestations in Chronic Bright's Disease.—G. E. DE SCHWEINITZ (*Medicine*, December, 1902).—Sudden bilateral loss of sight—the so-called uremic amaurosis—may be accompanied by a peripapillary or general edema of the retina, though frequently the fundus is normal. The writer believes that some cases are due to toxins acting on the ganglion cells of the retina, while in others the retention of the pupillary reflex, in spite of absolute blindness, would indicate a lesion in the visual tract higher than the primary optic centers.

Typically albuminuric retinitis presents whitish spots at the macula, arranged in the shape of a star. An annular white zone may surround the disk, forming the so-called "snow bank of the retina." Hemorrhages of various shapes are scattered throughout the fundus. The veins are dark, tortuous and enlarged; the arteries unchanged or smaller than normal. The disk may be merely hyperemic or present the picture of a full-blown optic neuritis.

A degenerative type, in which small white spots sparsely distributed throughout the normal retina, inconspicuous hemorrhages and sclerotic changes in the vessel walls comprise the principal ophthalmoscopic appearances, is sometimes encountered.

In arterio-sclerosis, and hence in many cases of renal disease, it is important to note the ophthalmoscopic changes, which are very important from a diagnostic standpoint, as they are often obvious in cases in which the usual retinitis has not developed. These changes include (1) undue tortuosity and beading—*i. e.*, alternate contractions and widenings—of the retinal arteries; (2) increased distinctness of the central light streak, loss of translucency, anatomical changes in the arterial walls; (3) undue tortuosity and beading of the veins and impeded venous circulation where a diseased artery crosses the vein (manifest either by an ampulliform dilatation of the vein beyond the point of crossing or by a dilatation on either side of the point of crossing), and anatomical changes in the walls; (4) edema of the retina; (5) retinal hemorrhages.

Ocular lesions occur most frequently in chronic interstitial nephritis. Retinitis is found also in chronic parenchymatous nephritis and amyloid disease. Uremic amaurosis, though usually seen in acute nephritis, may appear also during an acute exacerbation of a chronic nephritis.

It is probable that the renal disease has existed some months at least before the retinal lesions appear, but anatomical changes in the vessels and venous compression incident to rigid retinal arteries are present long before albumin and casts appear in the urine.

The majority of cases of albuminuric retinitis occur between the ages of

forty and sixty, though a typical case has occurred as early as the fifth year. Probably twenty-five per cent. of the various forms of Bright's disease as they occur in general hospitals are affected by various forms of retinitis.

Prognosis as to vision depends on the character and situation of the exudates. The exudative varieties may clear up decidedly, but there is never a complete disappearance of the stellate exudate at the macula. Detachment of the retina, secondary atrophy of the optic nerve, retrobulbar neuritis, hemorrhages into the optic nerve sheath and secondary glaucoma occasionally supervene. Prognosis as to life is very bad, few patients living longer than two years.

The stellate figure at the macula, frequently described as typical of kidney disease, is found also in the eyes of many patients suffering from cerebellar tumor. Sometimes the retinal disease is unilateral. Iritis and a pigmentary degeneration of the retina are occasionally observed. Palsies of the external ocular muscles have been described.

Subconjunctival hemorrhages recurring at intervals should lead to a strong suspicion of chronic Bright's disease. They are apt to occur during the night, and have a tendency to clear up quickly. A recurring subcutaneous ecchymosis of the lower eyelid is not infrequent.

The Influence of Sleep on Ocular Affections.—DE MICAS (*Annales d'Oculistique*, December, 1902).—During sleep the upper lid tends to come in contact with the lower. There is often, however, an appreciable gap between the lid margins. The globe rotates upward and inward. Asymmetrical and irregular independent movements occur. The lachrymal secretion is notably diminished. Winking is almost entirely in abeyance. Conjunctival hyperemia is increased. The pupil is contracted.

The position of the cornea—the vertex pointing upward and inward—insures its being completely covered even when a gap exists between the upper and lower lid margins. Similarly, in lagophthalmos, it is the lower portion of the cornea and the conjunctiva below that suffers from exposure. The frequency of injury to the lower corneal segment is explained by the fact that the eye, when threatened by disaster, assumes the same position as in sleep. Compression and protection of the lids and the miosis of sleep favor the healing of corneal ulcers.

Asymmetrical and irregular independent movements of the eyes are especially characteristic of sleep. A strabismus may entirely disappear. The great diminution or complete disappearance of the tumor of mucocele is accounted for by diminished lachrymal secretion. A slight desiccation of the cornea is due in part to the lessened lachrymal secretion, in part to the inefficient distribution of tears incident to the absence of winking. The latter explains also the increased edematous swelling of the lids after sleep, the edema diminishing during waking hours under the influence of the massage exercised by the constantly moving lids. Increase in conjunctival hyperemia and the penning up of the discharge behind the motionless lids explains the fact that a conjunctivitis is often worse in the morning.

Miosis is constantly present, and is more pronounced the deeper the slumber. This accounts for the increase of pain in acute iritis which occurs just after the patient has fallen asleep. Similarly the pain of an acute glaucoma often decreases. The writer is inclined to believe that the transient improvement in vision in detachment of the retina, often observed after a night's rest, is due to the miosis of sleep.

In the administration of narcotics or sedatives the study of the pupil should determine which one to employ. As a general rule, if the ocular affection demand a mydriatic—*e. g.*, iritis—a mydriatic narcotic, such as belladonna, aconite, etc., should be exhibited. If the ocular condition demand miosis, it is better to employ opium or chloral.

The loss of an eye, after cataract extraction, is sometimes due to cough in a bronchitic, brought on by the increased excito-motor power of the spinal cord during sleep.

BOOK REVIEWS.

DISEASES OF THE RECTUM AND ANUS. DESIGNED FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By SAMUEL GOODWIN GANT, M. D., LL.D., Professor of Rectal and Anal Surgery at the New York Post-graduate Medical School and Hospital; Formerly Professor of Gastro-intestinal Surgery at the University and Woman's Medical Colleges, Kansas City, Missouri; Attending Surgeon for Rectal and Anal Diseases to the New York Post-graduate Hospital, St. Mark's Hospital, Hebrew Sheltering Guardian Orphan Asylum, and New York Infant Asylum; Member of the American Proctologic Society, American Medical Association, Mississippi Valley Medical Association, and New York Post-graduate Hospital Alumni Association, New York Academy of Medicine, County and Greater New York Medical Societies, and Honorary Member of the Missouri, Kansas and Nebraska State Medical Associations, Kansas City Academy of Medicine, etc. Second edition, rewritten and enlarged with thirty-seven full-page plates, twenty of which are in colors, and two hundred and twelve smaller engravings and half-tones. Pages, xxiv-687. Royal octavo. Extra cloth, \$5.00 net; sheep or half-russia, \$6.00 net, delivered. Philadelphia, Pennsylvania: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

In this we have another American text-book appearing in its second edition, the author giving as his good reason for the same, that the advances in his subject matter have necessitated the same. The author's removal from Kansas City to New York has of course supplied him with greatly augmented material for this kind of work. Three entirely new chapters have been added since the original appearance of the book, on the coccyx, venereal affections of the ano-rectal region, and recto-colic enteroliths. Many new illustrations have been added, some of the same being colored plates and wash-drawings which are above reproach. One of the valuable chapters of the book is that on the much neglected subject of examination of the feces. One of the valuable features of the first volume was that portion devoted to the study of cancer and colostomy, the same having been written by Allingham, the undoubted leader in the field of rectal surgery. With the advances in our science a special work in the various fields of surgery becomes an absolute necessity.

THE INTERNATIONAL TEXT-BOOK OF SURGERY. In two volumes. By American and British Authors. Edited by J. COLLINS WARREN, M. D., LL. D., F. R. C. S. (HON.), Professor of Surgery, Harvard Medical School; and A. PEARCE GOULD, M. S., F. R. C. S., of London, England. Second edition, thoroughly revised and enlarged. Vol. I. General and Operative Surgery. Royal octavo of 965 pages, with 461 illustrations, and 9 full-paged colored lithographic plates. Vol. II. Special or Regional Surgery. Royal octavo of 1122 pages, with 499 illustrations, and 8 full-paged colored lithographic plates. Philadelphia and London: W. B. Saunders & Co. 1902. Cloth, \$5.00 net; sheep or half morocco, \$6.00 net.

Whatever is said here in a review of this large work, must as a matter of course be largely a repetition of the matter which appeared in these columns concerning the first edition, comparatively recently. Since the appearance of the other edition, the "International" has been a decided favorite with practi-

tioners, though it might well be added that its size renders it less adapted to the wants of the student than some of its smaller competitors. As far as the book relates to naval and military surgery, these chapters have been rewritten along the line of progress which has made itself manifest during the African and other late wars. That portion of the book which relates to the surgery of the lymphatic apparatus has been decidedly changed, and in this particular the trend of the modern advances has been kept pace with. The illustrations in the first edition had attracted general favorable comment, and the reader of this edition will be pleased to note that they have been increased in number with many of the highest examples of this art. In preparing the second edition, it seems to have been the aim of the authors, not only to meet the want of the surgical public, but as well to satisfy their own feeling of what is required in such a work; thus in addition to what has been mentioned above, the chapters on the spleen and kidney have been revised and all in all the book rendered of the greatest practical value. The contributors number among them many of the best known surgeons in this country and England, thus assuring a more comprehensive grasp of the subject than can be possible where one man writes a book.

THE PRACTICE OF SURGERY. A Treatise on Surgery for the Use of Practitioners and Students. By HENRY H. WHARTON, M. D., and B. FARQUHAR CURTIS, M. D. Profusely illustrated. Third edition. Philadelphia and London: J. B. Lippincott Company. 1902.

Nothing could better illustrate the value of this book than the fact that it appears in the third edition only five years after its initial bid for the favor of those who require an American text-book on the subject under discussion.

The review of the second edition in these columns contained most of all that can be said on the third. There have been few changes either in the appearance or contents of the book. The chapter on surgery of the eye, has, I think, been very properly limited to the traumatic affections of that member and its surroundings. Why indeed should there be anything on the eye in such a work, when every practitioner has at least one special work on the subject?

It is difficult of course to treat of the immense subjects of general and special surgery in a single volume, but considering their natural limitations, the authors have furnished the doctor with a very fair working guide, considering of course that he will not attempt as a routine practice the work of the specialist in surgery.

A TEXT-BOOK OF THE SURGICAL PRINCIPLES AND SURGICAL DISEASES OF THE FACE, MOUTH AND JAWS. For Dental Students. By H. HORACE GRANT, A. M., M. D., Professor of Surgery and Clinical Surgery, Hospital College of Medicine; Professor of Oral Surgery, Louisville College of Dentistry, Louisville. Octavo volume of 231 pages, with 68 illustrations. Philadelphia and London: W. B. Saunders & Co. 1902. Cloth, \$2.50, net.

This neat, moderate-sized volume is designed ostensibly to meet the requirements of the dentist who has an oral surgical operation to perform; but while it does reasonably well what it claims, still it goes a decided step farther and furnishes, tersely it must be admitted, all that the surgeon himself can demand for the ordinary run of cases. Here are dissertations on the various lessons of general surgery, anesthesia, inflammation, ulceration, tumors, etc., etc., as well as the treatment of dislocations, fractures and the various accidental affections, to say nothing of the embryonal malformations. The work is intended as an aid to the beginner in medicine as well as to his brother in dentistry, but it would seem to the reviewer that the practitioner in dentistry would be the one most of all to be benefited by its perusal.

The beauty of the binding, paper and type rather outclass most of the illustrations, the greater number of which are admittedly borrowed.

LEA'S SERIES OF POCKET TEXT-BOOKS—ANATOMY. A Manual for Students and Practitioners. By WILLIAM H. ROCKWELL, JR., M. D. Series edited by BERN. B. GALLAUDET, M. D. Illustrated with 70 engravings. Lea Bros. & Co., Philadelphia and New York.

The author has, in presenting this worthy number of the well-known Lea series of pocket text-books, succeeded in furnishing at low cost, a work on descriptive anatomy which is concise and at the same time, to use his own words, fairly complete. The illustrations, so necessary to an understanding of anatomy, are of the best, as is evinced by the fact that they are taken from the leading English and Continental works on this subject. The external appearance of the new book can need no further comment, since the series to which it belongs is so well known. Gray's anatomy has been followed closely in the preparation of this manual, a matter which will aid the average American student when he desires to use a small work like this, intended merely for review, etc.

DISEASES OF THE PANCREAS AND THEIR SURGICAL TREATMENT. By A. W. MAYO ROBSON, F. R. C. S., Senior Surgeon, Leeds General Infirmary; Emeritus Professor of Surgery, Yorkshire College, Victoria University, England; and B. G. A. MOYNIHAN, M. S. (Lond.), F. R. C. S., Assistant Surgeon, Leeds General Infirmary; Consulting Surgeon to the Skipton and to the Mairfield Memorial Hospitals, England. Handsome octavo volume of 293 pages, illustrated. Philadelphia and London: W. B. Saunders & Co. 1902. Cloth, \$3.00, net.

The comparative scarcity of information on this subject makes doubly welcome a work such as that which lies before us. The authors seem to have had in mind when writing the work, not only to tell us what has been done in this field, but to forecast future advances as well. In appearance this is a handsome work; the paper of fine, heavy quality, and the print somewhat larger than usual; the illustrations are, most of them, schematic in character, though all well executed. Especial stress must be laid upon the fact that the book combines the efforts of two distinguished surgeons. Robson being particularly well known for his work in abdominal surgery, especially that of the biliary apparatus; thus having worked with so much distinction in a field which is closely related to that under discussion, we naturally expect from the Leeds operator something far above the average in the work before us; nor is the reader disappointed. In its ten chapters, the book deals with the normal anatomy, physiology and pathology of this organ; taking up, at the same time, the experimental work which the authors and others have done in an effort to clear up matters of import to the clinical surgeon. The pancreas may be said to be considered fully and in a masterly way from every standpoint.

A MANUAL OF DISSECTION AND PRACTICAL ANATOMY FOUNDED ON GRAY AND GERRISH. By WILLIAM T. ECKLEY, M. D., Professor of Anatomy, and CORINNE B. ECKLEY, Demonstrator of Anatomy in the Medical and Dental Departments of the University of Illinois. In one octavo volume of 400 pages, illustrated with 220 engravings, 116 of which are colored. Cloth, \$3.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

For a student who is following Gray or Gerrish, this dissector will be of immense help, since the cuts are taken from the two standard works above men-

tioned. This may be taken, further, as an evidence of the excellence of these same cuts; and it may not be amiss to remind the reader that the illustrations play a more important part in a book on dissection than in any other. The general style of the work is the same which has always characterized the appearance of Gray's anatomy. There is no longer any questioning the fact that a student cannot get the greatest amount of good out of his dissection, with no other help than a book on descriptive anatomy, as was formerly the custom. Granted that the student must have a dissector, it remains but to be said that this latest acquisition is as far ahead of the older English works as the descriptive anatomies of to-day are in advance of those of fifty years ago. The authors have avowedly intended the book not only for the student, but for the practicing physician and the pathologist, and indeed it must be granted that it contains the store of information which a complete work on anatomy must offer, but, more than this, the material is so arranged that it is particularly useful, since it is so easy to get at.

SURGICAL ANATOMY AND OPERATIVE SURGERY. For Students and Practitioners.

By JOHN J. McGRATH, M. D., Professor of Surgical Anatomy and Operative Surgery at the New York Post-Graduate Medical School; Visiting Surgeon to the Harlan Hospital and Assistant Visiting Surgeon to the Columbus Hospital, New York. Illustrated with 227 illustrations, including colors and half-tones. Royal octavo. Extra cloth, \$4.00, net; sheep or half Russia, \$5.00 net, delivered. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry street.

The interdependence of regional anatomy and surgical technique is too apparent to need more than a passing mention, hence the value of a book which combines a study of the two. Of course, such a book of the size described above can hardly be a complete dissertation upon descriptive anatomy, nor does it claim to be; the authors have avowedly omitted all that does not appertain directly to some surgical operation. The illustrations are most of them diagrammatic, the author claiming that such lend themselves most readily to teaching purposes (the book being a synopsis of his course in the New York Post-Graduate School). While the greater number of them make no especial claim as works of art, still all are apparently "original" and have, therefore, a definite value for the purchaser, since they represent something which he cannot already have in his library; a thing that cannot be said of nearly all the publications of the present day. In the chapter on the treatment of inguinal hernia I am pleased to note that the author gives the details of but two radical surgical procedures, viz., those of Bassini and Halsted. It has always been surprising that the most of the other writers have continued to inflict upon the busy practitioner all the useless and obsolete methods which have disgraced this field of surgery. McGrath does not make the beginner's choice difficult: he simply shows him the only two methods which will do the work. The same good taste characterizes the rest of the book.

APPLIED SURGICAL ANATOMY REGIONALLY PRESENTED. For the Use of Students and Practitioners of Medicine. By GEORGE WOOLSEY, A. B., M. D., with 125 illustrations, mostly colored. Lea Brothers & Company, New York and Philadelphia. 1902.

There can be no doubt that anatomy, the bugbear of the medical student, is at the same time robbed of much that is uninteresting as well as made easier of acquisition when presented in a practical way. The beginner learns it more easily, and the practitioner recalls it more readily when both couple it with its various

relations, theoretical as well as useful in practice. It is seemingly the desire of Woolsey to embody the foregoing idea in the presentation of the subject as we have it in the work now under discussion. It is rather a handsome volume of 521 pages, so within the reach of all, so far as price is concerned. The illustrations are faultless, having been taken from a number of the world's most excellent anatomies, some of which are not within the reach of most of us, viz., Joesel, Tillaux, Merkel, etc. The author, after teaching twelve years, presents what he believes to be the best arrangement of the subject in this book. This is a point of no little importance, for it stands to reason that the average reader will find of most use a thing which has enabled the average medical student to grasp the subject in the most satisfactory manner. So much for the student. The book has something for the practitioner, on which too much stress cannot be laid, viz., it takes up, in connection with each bone, the fracture forms to which that especial bone is liable. Nor is this all; cerebral localization is considered in connection with the anatomy of the brain; dislocations are given, as well as the normal anatomy of the joints; a treatise on hare-lip completes the anatomy of the face, and in many other branches of the subject the endeavor is shown to crowd into a work on practical anatomy as many of the practical applications of the subject as possible.

THE PUBLIC AND THE DOCTOR. By a Regular Physician. Published by Dr. B. E. HADRA, Dallas, Texas. Price, 50 cents.

This little book is intended to enlighten the masses as to medical matters, to help to subdue quackery, and to assist the rational physician in his many troubles with the ignorant and uninformed. We feel that the writer has fulfilled his task in an admirable way, and confess that we have read this booklet with great interest from the first to the last page.

PRACTICAL DIAGNOSIS: THE USE OF SYMPTOMS AND PHYSICAL SIGNS IN THE DIAGNOSIS OF DISEASE. By HOBART AMORY HARE, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, etc. Fifth edition; pp. 698, illustrated. Philadelphia and New York: Lea Bros. & Co. 1902.

The fifth edition of Hare's well-known text-book has been largely rewritten, to keep the volume abreast of the advances in diagnostic technique, and will be found quite as useful as were its predecessors when they were issued. The method pursued is just the reverse of that observed in books on medicine. The various signs and symptoms are taken up as such, and their significance and value for diagnosis discussed. In this manner the methods are followed which are ordinarily employed at the bedside: the symptoms of a disease are presented as they would be observed, and from this group of symptoms the reader is led to the diagnosis. Thus, if a patient has paraplegia, the reader will find in the chapter on the Feet and Legs a description of the symptoms of the various causes of this loss of power in the lower limbs, and so be led to a diagnosis of locomotor ataxia, myelitis or neuritis, as the case may be; and in the chapter on Vomiting there will be found discussed the various causes that produce this annoying and often dangerous symptom. Not the least useful feature of the volume is an elaborate and suggestive index.

THE MEDICAL TREATMENT OF GALL-STONES. By J. H. KEAY. P. Blakiston's Son & Co., Philadelphia. 1902.

This little work is not, as its name would indicate, devoted exclusively to a consideration of the medical treatment of gall-stones. On the contrary, it deals

more largely with the pathogenesis, the migration, complications, diagnosis, etc. The author maintains that the chief aim of medical treatment is not to expel the stones, nor to dissolve them, but to prevent their formation and to keep them at rest, etc.

The repetition of chapter II was doubtless an oversight, and detected too late for correction.

MANUAL THERAPEUTICS: A TREATISE ON MASSAGE, ITS HISTORY, MODE OF APPLICATION AND EFFECTS, INDICATIONS AND CONTRAINDICATIONS. By DOUGLAS GRAHAM, M. D. Third edition; pp. 462, illustrated. Philadelphia and London: J. B. Lippincott Co. 1902.

In spite of some very evident faults, Dr. Graham's book is well worth reading. The first chapter is devoted to an entertaining account of the history of massage and of massage as practiced among uncivilized peoples. Then follows a disquisition on the mode of applying massage in general, and a summary of the work done, chiefly in Germany, in connection with its physiological effects. The bulk of the volume is occupied by a discussion in extenso of massage as indicated in various diseased conditions. The illustrations, in general, are excellent, consisting chiefly of photographic representations of the various procedures utilized in this mode of treatment. They give the reader a far more vivid and accurate knowledge of the process than any amount of description, and replace in a measure the actual demonstration of the process on the part of the teacher. The book is written, however, in a far too discursive style. The author repeats himself frequently, and is constantly bringing in irrelevant matter. The volume would gain in every respect if it were condensed into two-thirds of its bulk.

PRACTICAL DIETETICS, WITH SPECIAL REFERENCE TO DIET IN DISEASE. By W. GILMAN THOMPSON, M. D., Professor of Medicine in the Cornell University Medical College, New York, etc. Second edition; pages 828, illustrated. New York: D. Appleton & Co. 1902.

The second edition of this delightful book will doubtless meet with a warm welcome. The first edition is so widely known that a detailed review of the second hardly seems necessary. As in the first edition, the account of the nature, manufacture and preparation of the foods and beverages useful in health and disease is so charmingly presented that the reader finds himself fascinated by what, in other hands, would have been a dry account of processes and analyses. The second half of the volume is devoted to diet in disease. A chapter is devoted to each of the great groups of disease: one to infectious diseases, one to diseases of the respiratory system, another to those of the alimentary canal, etc. An invaluable appendix containing receipts for the preparation of all sorts of foods and beverages suitable for the sick room is not the least useful portion of the volume. The book can be unreservedly recommended, and should be on the shelves of every practitioner.

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS AND PHARMACOLOGY. By GEORGE F. BUTLER, Ph. G., M. D., Professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, Chicago. Fourth edition, thoroughly revised. Pages 896, illustrated. Philadelphia and London: W. B. Saunders & Co. 1902.

The new edition of this useful work contains a number of important alterations and additions. It seems particularly devised as a text-book for the medical

student, but deserves also a place on the shelves, for reference, of the practitioner. The opening chapters on pharmacology and general therapeutics present a well-written discussion of the classification and administration of remedies, an exceedingly useful table of the untoward effects of drugs, and a chapter on the conversion into each other of the metric and apothecary systems. A systematic discussion of official and non-official preparations in general use takes up the bulk of the volume, and is followed by a chapter on prescription writing and prescription latin that will be useful to the student. A discussion of the theories of electrical disassociation and its bearing on pharmacology closes the volume. The weakest point of the book is in the discussion of the newer remedies, which is woefully incomplete. Not only do the newer drugs, less frequently prescribed, such as urocedin, dionin and phenol-phthalein, find no place in it, but drugs that are in constant use, such as urotropin, formaldehyde and asperin, are not mentioned. The text is followed by a useful index which, however, is not entirely free from the aggravating fault of occasionally referring the reader to the wrong page. Thus serum-therapy, the account of which begins on page 287, is referred to page 285. The volume will find its chief value as a text-book in medical schools.

DISEASES OF THE EYE. A Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. DE SCHWEINITZ, A. M., M. D., Professor of Ophthalmology in the University of Pennsylvania, etc. With 280 illustrations and six chromo-lithographic plates. Fourth edition, thoroughly revised. Pages, 773. W. B. Saunders & Co., Philadelphia and London. 1902.

This splendid, medium-sized treatise, which has now reached its fourth edition, needs no introduction to the student of ophthalmology. Considering its relatively small size, the number of topics discussed is remarkable. Professor De Schweinitz possesses a style which is succinct and at the same time eminently clear and readable, so that his work, judged merely from its literary standpoint, is an especially meritorious performance. The present edition has been partly re-written and much new matter added. In a book of such general excellence it was perhaps invidious to ascribe unusual merit to any one portion, but the reviewer desires especially to commend the chapter on the "Movements of the Eye-balls and Their Anomalies," which for arrangement and scientific precision of statement leaves little to be desired. The book is primarily intended for the use of students and general practitioners, but a careful perusal will well repay the more advanced student of ophthalmology.

THE EYE, EAR, NOSE AND THROAT. Being Volume III of the Practical Medicine Series of Year Books under the general editorial charge of GUSTAVUS P. HEAD, M. D. Volume III edited by Casey A. Wood, C. M., M. D.; Albert H. Andrews, M. D.; T. Melville Hardie, A. M., M. D. Pages, 392. Issued December, 1902. The Year Book Publishers, 40 Dearborn street, Chicago, Ills.

This little volume is an excellent epitome of the principal advances in the special departments of ophthalmology, otology, rhinology and laryngology. It is manifestly a difficult task to compress within the limit of 400 pages a satisfactory review of all the more important papers that have appeared within a twelvemonth in the specialties under consideration. It is, therefore, much to the credit of the authors that they have succeeded in producing a very readable book, which gives in sufficient detail for clearness the results of the work of 1902. The editorial comments are usually to the point, and bespeak conscientious work on the part of the editors.

MANTON'S OBSTETRICS. A Manual of Obstetrics for Students and Practitioners. By W. P. MANTON, M. D., Adjunct-Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine. In one 12mo volume or 265 pages, with 82 illustrations. Cloth, \$1.00. Lea Brothers & Co., Publishers, Philadelphia and New York. 1903.

This, the fourth volume of Lea's Series of Medical Epitomes, presents a clear compendium covering the essentials of obstetrics. It is written in admirably simple language, and its arrangement and scope give ample evidence of its author's experience in teaching this subject.

BOOK ON THE PHYSICIAN HIMSELF AND THINGS THAT CONCERN HIS REPUTATION AND SUCCESS. By D. W. CATHELL, M. D. The Twentieth Century Edition, being the eleventh edition, revised and enlarged by the author and his son, William T. Cathell, A. M., M. D. Pages, 411. Royal octavo. Extra cloth, \$2.50 net, delivered. F. A. Davis Company, Publishers, 1914-16 Cherry street, Philadelphia.

"In order to make this book more worthy of the numerous commendations it has received" the authors have carefully revised almost every paragraph, have introduced so many facts and added so much new material that they have practically produced a new book.

This volume is too well known as to need any more praise. We recommend all those who have older editions to exchange them for this up-to-date "Twentieth Century Edition," and I sincerely advise all the young practitioners to carefully "study its pages from cover to cover."

THE MENOPAUSE. By ANDREW F. CURRIER, A. B., M. D. D. Appleton & Co., New York.

The aim which prompted the author to write this interesting volume is a high and noteworthy one. As he states in the preface, he was never able to see the sense nor the logic of the traditional teaching that the menopause was a serious—yea, even a most dangerous—time and experience. We feel certain that this book, based upon a most careful study of modern literature and a wide personal experience, will effectually succeed in eradicating the many erroneous views regarding the menopause carried over from one generation to the next. The author begins with a historical sketch, discusses the phenomena of normal and morbid menopause, considering especially the symptoms of artificial menopause, and concludes with a chapter devoted to the treatment of the ills of the climacterium. This little volume is undoubtedly the most exhaustive treatise on this subject in existence.

NERVENLEIDEN UND FRAUENLEIDEN. Von DR. OTTO WILLE. Verlag von Ferdinand Enke, Stuttgart. 1902.

The relation between diseases of the nervous system and the genital organs in the female is considered from three points of view, namely: how diseases of a single organ influence the general health, how disturbances of the general health interfere with the function of individual organs of the body, and, finally, which symptoms are caused by local disturbances. As regards the female genital organs, the author is inclined to believe that their influence upon the general condition usually is overrated. Many of the apparently gynecological symptoms are due to disturbances in the nervous system. How radical his views in this matter are may be easily inferred from the fact that he considers dysmenorrhea

a condition of pathological irritability of the nervous system which leads to spasmodic contractions of the uterus during menstruation.

This essay of forty-eight pages embodies in a concise form an exhaustive consideration of the subject. We heartily endorse No. 7 of the author's conclusion: "An exact knowledge of the general neuroses Hysteria, Neurasthenia and Nervosity is indispensable for every gynecologist."

FOR VARIOUS REASONS the *Journal of Cutaneous and Genito-Urinary Diseases* has become a journal devoted to the interests of dermatology and syphilis only, the genito-urinary feature having been eliminated. Dr. A. D. Newborn, of New York, is the acting editor, and the publication, under the name of "*The Journal of Cutaneous Diseases*," and in a new dress, appeared the first of the year. Under the new management the *Journal* is to be the official organ of the American Dermatological Association and the various dermatological clubs and societies throughout the country. Under the present auspices and support the *Journal of Cutaneous Diseases* should occupy a high position among the world's best periodicals, and we predict for it a brilliant future.

We wish to extend our sincere congratulations to Drs. J. C. Johnston and Swinburne, the retiring editors, upon the success of their heroic struggle of the last few years in keeping the *Journal* always up to its excellent standard against many trying and provoking circumstances.

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ORIGINAL ARTICLES.

THE DIAGNOSIS AND TREATMENT OF HEMORRHOIDS.

BY JAMES P. TUTTLE, M. D., of New York,

PROFESSOR OF DISEASES OF THE RECTUM, NEW YORK POLYCLINIC.

Before one can attain the highest art in the treatment of any surgical disorder, it is necessary for him to be able to make the most accurate and distinctive diagnoses. A large majority of the mistakes made in the treatment of rectal diseases are due to the fact that surgeons act upon superficial symptomatic evidences, instead of an actual knowledge of the condition of affairs. The fact that bleeding from the rectum after stool is such a common symptom in hemorrhoidal disease leads many physicians to accept the self-made diagnoses of their patients without local examination of the parts, and to treat them by salves, suppositories, etc., until these remedies have proved their inefficacy, and then to suggest an operation. Unfortunately, many of these cases, thus superficially observed, turn out to be cases of a more serious nature, in which the bleeding or hemorrhoids are but symptoms.

Even those who are more accurate in their work, and less averse to insistence upon local examination for every local disease, have been, in the past, content to rest their diagnoses upon digital examination, frequently made with the clothing in position and without even a view of the parts. So far as it goes, the finger is undoubtedly the most useful instrument in examination of the rectum, but it has its limitations in the first four inches of the rectum, and in ordinary varicose hemorrhoids it is exceedingly inaccurate, for it is impossible to feel them when collapsed. Not only is this true, but it gives no idea of the actual condition of the mucous membrane of the rectum and sigmoid above the four inches which can be felt, and very little of that within its reach.

The time is past when careful surgeons rest their opinion upon such superficial examinations. Modern ingenuity has devised for us means by which our diagnoses can be made absolutely accurate in the rectum as well as in all the orifices of the body. Laryngologists would no more think of making a diagnosis in throat disease without looking into the organ than would a proctologist consider giving an opinion upon rectal diseases without ocular observation at the present day. Feeling is a most useful adjuvant in all examinations, but it cannot possibly take the place of absolute sight. Since Kelly demonstrated to us the possibility of introducing a straight cylinder into the sigmoid flexure, the field of rectal diseases has largely widened, and our knowledge of their pathology has become much more accurate. While the modern instruments are a great improvement upon those of this noted surgeon, the great impetus which has been given to the study of rectal diseases in the past seven years is practically due to

him. The modern pneumatic proctoscope is but an evolution of the Kelly tubes, devised to overcome difficulties which were found in the use of his noted instruments, to give a wider and a better view of the parts, and to enable us to make examinations in positions and under circumstances in which they were formerly impossible.

An instrument of special value as a means of diagnosis, is a modification of the Kelly tube, which has gradually evolved from the suggestions of Laws, Pennington, Beach and others. It consists of two cylinders. The small one serves to carry the electric light, which is thrown direct upon the parts observed, and is closed by a glass globe at its distal end. The larger cylinder furnishes the means of viewing and treating any portion of the rectum or sigmoid throughout its extent. Into it an obturator fits, which is used only for passing the instrument through the sphincters. After this the bayonet-fitting plug, in which there is a glass aperture and a small tube for the admission of air, is fitted into the end of the larger cylinder. The rubber hand-bulb is then attached, and by it the rectum is inflated, so that the whole gut may be viewed up to the sigmoid flexure without passing the instrument any further in. The gut being distended, however, the tube can be passed upward to the sigmoid flexure without impinging upon the surfaces of the rectum, thus avoiding any traumatism or pressure upon tender spots. The pneumatic pressure being continued, the sigmoid is lifted from the pelvic cavity and straightened out upon the rectum, so that the straight instrument can ordinarily be introduced even into this portion of the gut, practically without coming into contact with its walls. As the instrument is carried in through this dilated space, every portion of the circumference of the intestine is constantly in view, and if there be stricture, ulceration or neoplasm, either low down or high up, it can be accurately seen. By this means the final diagnoses of rectal diseases from symptoms and through inferences are made obsolete. We no longer think or opine concerning a disease, we see it and we know it. Such an examination is necessary in every case of supposed hemorrhoids, simply to eliminate all possibility of a more serious disease above as a cause of the hemorrhoidal affection, and to be able in giving a prognosis to the patient to tell him whether the removal of his hemorrhoids will result in the cure of his symptoms or not.

As the tube is withdrawn through the anus, one is able to accurately observe the hemorrhoid-bearing area, and to determine (whether he has been able to feel them or not) the presence or absence of varicosities, erosions or ulcerations in this area. The examination, while slightly painful in some patients, is ordinarily free from this in the large majority, and I have never found it necessary to administer an anesthetic in order to carry it out. This method of diagnosis is not only important in determining the presence of hemorrhoids, but, until we learn to make a more accurate diagnosis than this, our success in the treatment of this disease will be much limited. One should not only know that a patient has hemorrhoids, but he should determine their cause and their type.

The limits of this paper prevent a discussion of the etiology of this disease. There is scarcely any condition to which the human flesh is heir that has not at one time or another been accused of producing piles. Age, sex, occupation, habits, environments, heredity, temperament, climate and seasons, anatomical conformations, constipation, drugs, diet, strain, tight lacing, external irritations, constitutional diseases, hemorrhages and both atony and spasm of the sphincter

muscles, have all been called into account for their development. Practically one may say that the erect posture, chronic constipation, muscular strain and diseases of the genito-urinary organs are the most frequent causes, and where any of these conditions exist, operations upon the hemorrhoidal tumors are not likely to prove successful in the relief of the patient's symptoms, unless these etiological factors are at the same time remedied. Time and again have I seen patients suffering from hemorrhoidal symptoms, bleeding, aching in the back, prolapse at stool and spasm of the sphincter, all due to nothing but a retroverted and displaced uterus, and all relieved by the adjustment of a properly fitting pessary. Time and again have I seen these same symptoms accompanied by a stricture and inflammation of the deep urethra, the removal of which has resulted in the entire relief of the hemorrhoidal condition. In certain conditions of other organs, in which hemorrhoids are but a symptom, any interference with the latter may prove most detrimental to the patient. Particularly would I call attention to the inadvisability of interfering with hemorrhoidal fluxes in cases of cirrhosis of the liver. It has ever been shown that in these cases the hemorrhages are without doubt to a certain extent salutary, and where they are discontinued by operation or local treatment, the patients have rapidly developed anasarca or general dropsy, and death has been the result. Some of the older surgeons have even gone so far in such cases as to attempt to re-establish the hemorrhoidal flux by opening the veins or cauterizing the parts so as to thin out the vessel walls, and thus subject them to rupture and bleeding whenever unusual congestion in the contracted liver occurs. These and many other considerations must be taken into account whenever a case of hemorrhoids presents itself for treatment.

Not only should we recognize the causes of the disease, but its type. A large variety of hemorrhoids have been described under various names, but practically one has to deal with but two general classes, external and internal piles.

External Piles.—These may be divided into thrombotic, varicose, inflammatory and connective-tissue hemorrhoids, and each of these varieties demands a distinct kind of treatment.

The thrombotic hemorrhoid, which consists simply in an extravasation of blood into the cellular tissue around the margin of the anus, is one of the simplest and easiest conditions to treat, if attacked radically upon its first appearance. It comes on as a little stinging or sharp pain, followed by a slight swelling, which increases, and as it increases the character of the pain changes to that of aching, throbbing and fullness. If seen at first, it may appear as a simple globular swelling without any distinctive color, or it may have a dark blue or purplish appearance.

There is but one treatment for this condition, and the sooner that it is applied, the better. It is my practice never to allow patients suffering from this condition to arise from my examination table until the clot has been turned out. The hypodermic injection of a little one per cent. solution of cocaine into the skin over the tumor enables us to make a slight incision parallel with the longitudinal folds of the anus, through which the clot can be enucleated without difficulty and without pain to the patient. As soon as this growth is removed, a small strip of iodoform gauze is crowded into the wound, not for the purpose of controlling hemorrhage, but to avoid the reproduction of a clot, which is likely to take

place if the edges of the wound are allowed to come in contact with each other. This packing is left in situ for twenty-four hours only, it is then removed and the edges of the wound approximated by pressure. There is absolutely no danger of hemorrhage, and if these cases are properly treated at once, under antiseptic precautions, they will uniformly heal within two or three days. If left alone, however, the little thrombi may become infected, eventually causing abscess or fistula, or they may become organized and remain as foreign bodies, continually irritating the parts locally and annoying the patient for indefinite periods.

The varicose type of external hemorrhoids consists in a general varicosity of the external hemorrhoidal veins which surround the anus. They are imperceptible, except when the patient goes to stool or sits in the squatting position and strains. They are not painful as a rule, and are practically never complained of, except by the higher class and hypersensitive individuals. It is not from discomfort, from hemorrhages or any disability that professional advice is sought concerning these developments. It is simply the fact that an abnormal dilatation and swelling appear around the anus that our advice is sought. In the large majority of cases these hemorrhoids occur in society and professional people given to much leisure and overfeeding. In most instances the patient confesses to prolonged sitting at stool and straining to have a movement of the bowels, or to the indulgence in laxatives of various types. The pathology of this condition is nothing more nor less than a varicosity of the external hemorrhoidal veins.

The treatment of this condition is practically a revolution in the habits of the patient. The external veins are not connected in any marked degree with the portal circulation. They are therefore not due to congestion of the liver, and hepatic stimulants and limitations of diet will have little effect upon them. The chief thing in the majority of these cases consists in establishing prompt and free evacuation of the bowels. The best method of accomplishing this is to give the patient a cold enema at a certain time, either night or morning, whichever will be most convenient for him, and by this means prevent his prolonged sitting and straining at stool. As soon as the evacuation has been accomplished, the patient should lie down upon his side with the hips elevated, and apply cold water or ice bags to the anus, thus causing the contraction of the veins. Occasionally one will find benefit from applying a salve consisting of

R. Ung. ac. tannic,
 Ung. belladonnæ,
 Ung. stramonii aa ʒ j
 M. Sig.—Apply freely to parts at bed-time.

But, as a rule, the prompt evacuation and cold applications will accomplish a radical cure in such cases.

Sometimes, where this type of hemorrhoid is complicated by internal hemorrhoids, an operation upon the two conditions at the same time may be admissible. The operation which I prefer in such cases is a modification of the Whitehead method, and consists in dissecting out the hemorrhoidal area of the mucous membrane, folding back a collar of skin around the margin of the anus, exposing these dilated veins, and removing them. After which the edges of skin and mucous membrane are sutured together. By this means none of the skin tissue is removed, but the varicose veins beneath it are eradicated.

Electrolysis and injections have been advised in this condition, but from my experience they are very unsatisfactory and dangerous procedures.

The inflammatory external hemorrhoids consists in an inflammation of the radical folds of the anus. They are brought on by some abrasion and infection in the sulci or within the rectum. They are usually pear-shaped, the large end directed downward, and occasion the patient a great deal of pain. Spasm of the sphincter is a prominent symptom in these conditions, and yet sloughing is rarely ever seen on account of the fact that the blood supply to the hemorrhoid does not come from within the rectum, but is entirely outside, and therefore cannot be compressed by the spasmodic muscle.

The treatment of this condition may be palliative or radical. The application of ice or cold compresses is not advisable, inasmuch as it may produce sloughing. Where the time or circumstances do not admit of radical operation, one may frequently obtain relief by the application of a twenty-five per cent. solution of boroglyceride, over which should be applied a hot water bag, the patient being kept in bed with the hips elevated. After this application has been employed for four or five hours the ointment given above may be substituted for it, and frequently the inflamed phenomena will disappear within the first twenty-four hours, and the patient be entirely relieved. When the tumors subside, there remain a thickening and hypertrophy of the radial folds which eventually resolve into a skin-tab or connective-tissue hemorrhoid. When the circumstances permit, however, the most rapid and perfect relief can be obtained in these cases either by anesthetizing the patient or by the introduction of cocaine, and radically removing the hemorrhoids. This may be done either with the ligature or with the clamp, or the growth may be cut off with scissors and the edges sutured together. The cautery should never be employed in these cases, because burning the skin is very likely to be followed by excessive pain. My own preference is for simply crushing off the inflammatory hemorrhoids with the ordinary hemorrhoidal clamp. The objection to doing this operation under cocaine consists in the fact that it does not overcome the spasm of the sphincter, and it is very likely to be followed by the development of an anal fissure. In these minor degrees of hemorrhoids ethyl chloride is a very satisfactory anesthetic. It is preferable to nitrous oxide gas on account of its simplicity and the lack of complicated apparatus necessary for its administration.

The fourth type of external hemorrhoids consists in the connective-tissue pile or so-called skin-tab. These growths are the result of inflammatory conditions about the margin of the anus. When quiescent, they occasion the patient no considerable disturbance. At times, however, they become inflamed or excoriated, and under these circumstances they are very painful. They are also annoying to the sensitive individual, in that they interfere with proper cleanliness, and sometimes with such exercises as horseback and bicycle riding. Under such circumstances they can easily be eradicated by cocainizing and snipping them off with scissors, or crushing with the ordinary hemorrhoidal clamp. The bleeding following one of these operations is so slight and so easily controlled by pressure with absorbent gauze that it need give the operator no anxiety. I am in the habit of grasping the tumor after it is cocainized with the hemorrhoidal forceps, dragging it down and crushing its base with the hemorrhoidal clamp until a firmly crushed pedicle is formed. Through the distal edge of this the hemorrhoidal edge is cut off, and the crushing acts as a sort of adhesive

plaster, holding the edges of the wound together. I have frequently seen the wound heal after this operation just as perfectly as if the edges had been sutured together.

Internal Hemorrhoids.—While various in their conformation, internal hemorrhoids may be all included under two classes: capillary and varicose. Capillary hemorrhoids consist in minute nevoid or capillary growths in the mucous membrane. They are nothing more nor less than minute blood vessels, covered over with very thin mucous membrane, which bleeds upon the slightest touch. They do not protrude during stool, they rarely occasion any pain, and yet they bleed at every fecal passage. The amount of blood lost at any individual time is not so much as may be lost in varicose hemorrhoids, but it is much more persistent, and consequently the patients are often the subjects of extreme anemia and exhaustion.

It is impossible to diagnose this condition by tactile sensations. One must absolutely see the parts in order to make out the source of bleeding. Through the speculum they appear as bright red, raspberry-like masses, limited in area and always bleeding upon the slightest touch.

The treatment of this condition consists in cauterization of the bleeding points by one means or another. Ordinarily, surgeons employ nitric acid for this purpose, and it is very effectual. The objection to it consists in the fact that one cannot control the depth to which it burns or the area over which it may spread. I much prefer the use of the Paquelin or electro cautery for this purpose. With the conical fenestrated speculum one can bring the little tumors into view, apply cocaine to their surfaces, and then in a painless manner burn them off with a nasal electrode, thus absolutely removing them and at the same time limiting the action of the cautery to the diseased area. No unnecessary amount of tissue is thus destroyed and the bleeding is checked promptly and permanently without general anesthesia.

The varicose type of internal hemorrhoids vary more in their conformation than in their pathology. They practically consist in varicosities of the internal hemorrhoidal veins. They contain more or less connective tissue, according to the age of the individual and the length of time the piles have existed. Sometimes they consist in isolated tumors, and at other times in a general varicosity of the entire circumference of the rectum. In their early stages they may bleed more or less profusely and prolapse to a very slight extent. As they grow older, however, they bleed less and protrude more. It is not an uncommon experience to be consulted by patients who claim to suffer from hemorrhoids, who say while they formerly lost a great deal of blood that this feature has ceased, and they suffer at the time from only protrusion, pain in the back and constipation.

The treatment of these conditions depends largely upon the stage in which they are seen. I am perfectly confident that the large majority of hemorrhoids could be absolutely prevented if the patients would consult their physicians upon the first feeling of uneasiness, or the first sight of blood from the anus. By the elimination of sweets and excessive starches from the diet list, by cold water enemas instead of drastic purges to move the bowels, by the passage of gradually increasing rectal bougies to overcome spasm of the sphincter, the development of internal hemorrhoids would be checked, if, indeed, the disease itself is not absolutely eradicated. When, however, the disease has gone on to the development of large hemorrhoidal tumors, with more or less plastic and fibrous deposit

in their constitution, such treatment as this can only result in the relief of the patient, and not the cure. Under these circumstances some form of radical treatment should be undertaken. This treatment may consist in injection, in extirpation by the ligature or the clamp and cautery, or in excision with immediate suture—after the Whitehead or other methods.

A few words concerning the treatment of hemorrhoids by injection may not be amiss. There are two schools, so to speak, of "injections." The first believes in throwing into the tumor a considerable quantity of a strong solution of carbolic acid, so as to cause a sloughing of the growth. The second school believes in injecting into the tumor small quantities of moderately strong solutions, with a view to setting up an inflammatory induration, which will cut off a certain portion of the circulation of the growth, and thus cause its gradual atrophy. I have no sympathy with the first method of treatment, for I believe if the tumor is to be removed and an ulceration or granulation produced, this should be done by clean surgical methods, and can be done with much greater safety than by the uncertain injection of escharotic fluids into the tumor. The second method, however, is one which deserves some confidence. In pure internal hemorrhoids, which prolapse through relaxed sphincters, and which are not ulcerated, this method of treatment will frequently give us most excellent results. The accidents and injuries attributed to it have been largely due to carelessness upon the part of the operators, faulty technique and abuse of aseptic principles. When the operation is carried out under proper surgical precautions, the patients being prepared just as for a major operation, the tumors being brought down and cleansed surgically, and the instruments and fluids being thoroughly sterilized, there is no more danger of sepsis, abscess or sloughing in this method of treatment than there is in an ordinary hypodermic injection of morphine.

The fluid which I chiefly employ for injecting hemorrhoids consists in a modification of a formula introduced by Dr. Shuford, and after various experiments I do not hesitate to say that it is by all odds the most satisfactory for this purpose. The formula is as follows:

R	Ac. carbol	3j	ij
	Ac. salicylici	3ss	ss
	Sodii biborab	3j	j
	Glycerine, Price's (sterilized)	ad f.	3j
M.	Sig.—Modified Shuford's solution for injecting hemorrhoids.		

The patient is prepared as stated above, and, if the tumors do not prolapse at the time of treatment, he is caused to sit over a vessel containing hot water and strain for a few moments, and thus bring them down. The growth which seems to occasion the most pain is the one selected for injection at the first sitting. The needle is introduced at the juncture of the hemorrhoid and the mucous membrane and carried well across its base, the finger being introduced through the anus to be sure that the needle has not penetrated the upper limits of the tumor. The fluid is then injected little by little as the needle is partially withdrawn and reinserted into different portions of the base of the tumor. The amount of the fluid employed varies from three to ten minims, the average being about five minims. The needle is left *in situ* for about one minute in order for the fluid to disseminate, and after it is withdrawn a small compress of cotton soaked in alcohol is placed against the opening made in the tumor in order to prevent any exco-

riation from the escape of carbolic acid. After the hemorrhoids are replaced, the compress is placed upon the anus, and the patient is requested to lie quiet for one hour. After this he may go home or to his business. It is preferable that he should go home and be quiet for the next twelve hours. The bowels are confined for the first forty-eight hours; at the end of twenty-four hours, if the tumor is examined, it will be found composed of an indurated, pear-shaped swelling, well within the sphincter. This swelling increases for the first forty-eight hours, after which it gradually subsides, and eventually disappears, leaving no trace of the growth. Only one tumor should be injected at the first sitting, as patients differ very largely as to the amount of inflammatory reaction set up by one of these injections. If the individual suffers little from the first injection, at the end of one week the rest of the tumors may be thus treated at a single sitting. Ordinarily it requires a period of about six weeks to complete the treatment by this method. Thus it will be seen that, compared with the surgical methods, absolutely no time is gained, except that the patient is ordinarily able to be about his business during most of the treatment by this method. That tumors treated by injection may recur I have no doubt, but I do not believe that this recurrence is anything like so frequent as is ordinarily supposed. The cases in which the treatment has failed, so far as my experience goes, have been those which were not properly suited for it; cases with ulceration, tight sphincters, in which the tumors did not prolapse, and in which it was impossible to carry out proper antiseptic precautions. Where these conditions can be met, especially in old and feeble individuals with atheromatous or feeble hearts, all contraindicating surgical procedures, I believe that this method of treatment is by all means the most satisfactory.

I shall not give in detail the treatment of hemorrhoids by ligature. The Allingham and transfixion methods are well known to all physicians, and to those who have been accustomed to use them, they are entirely satisfactory. While I practically never employ these methods for reasons sufficient to myself, I frankly admit that they accomplish in a most satisfactory manner the eradication of the disease. I do not use them simply because I know a better way, one which occasions less pain, less detention from business, less hemorrhage, less complication, and better final results. By this method I refer to the clamp and cautery operation. I shall not go into a detailed description of this operation, for it is so well known; I only wish to call attention to some little practical points which are not ordinarily mentioned in the text-books.

The first of these is the necessity of catching the hemorrhoid in the line of axis of the gut. This is important, first, because it assists in overcoming any tendency to prolapse of the mucous membrane of the rectum; and, second, because it avoids the production of stricture following the operation. It is easily accomplished by the use of the hemorrhoidal forceps, greatly facilitating the operation, and is useful in every class of hemorrhoids. The forceps is introduced into the rectum closed. It is then opened over the hemorrhoid, the latter rises into its grasp, and is caught in the line of the axis of the gut. The growth is then dragged down, and if there be any cutaneous development this should be incised by scissors so as to avoid grasping these sensitive portions with the clamp or burning them with the cautery. This is the second practical point in the clamp and cautery operation. The third consists in applying the hemorrhoidal clamp over the forceps with the heel on the highest portion of the growth. This

is important from the fact that after the tumor is cut off it may slip from the grasp of the clamp, and if such should happen, it would be the part which is least tightly grasped by the clamp, *i. e.*, the lower portion, and this will always be within view, and bleeding can be controlled easily by pressure on hemostatic forceps. The fourth point consists in the application of the cautery. The pedicle of the tumor grasped by the clamp should be charred, but it should not be burnt down into the sulcus between the blades. The first safeguard against hemorrhage in this operation consists in the crushed pedicle. If this is burnt away then nothing more is accomplished by the clamp than if the tumor were simply burnt off without crushing. The crushing is an important hemostatic feature and the pedicle so formed should not be destroyed.

In removing the skin or cutaneous tissue around the lower end of a mixed hemorrhoid the danger is nearly always in removing too little instead of too much tissue. Time and again have I been compelled to cocaineize and cut off the stumps of these little skin-tabs which have been incompletely removed at the time of the first operation. One should therefore cut widely and broadly in this part of the operation. Practically there is no after-treatment in these cases. The parts are dusted over with orthoform, the patient is usually given a hypodermic of morphine before he recovers from the anesthetic, and a soft compress of sterilized gauze is placed over the anus and held in position by a T-bandage. Catheterization is never employed except under the most urgent circumstances. The patient is always encouraged to urinate voluntarily either by the application of hot cloths, or by placing him upon his feet or sitting him upon the commode, if it is necessary, within the first three or four hours after the operation. Of course, there are cases in which it becomes necessary, but in the past five years less than one in ten of my patients have been catheterized following this operation.

The excision of hemorrhoids with immediate suture is not a new operation, but it has been brought prominently into view within recent years under the name of Whitehead's method. This method consists in dissecting out the hemorrhoid-bearing area of the mucous membrane, amputating it above the varicose veins, and resuturing the membrane to the muco-cutaneous border of the anus. The operation as first advised by Mr. Whitehead was tedious, bloody and difficult to many in its performance. I have seen one prominent surgeon in New York devote over two hours to this operation, and during it there was a perfect forest of hemostatic forceps surrounding the anus. Indeed, I do not think I ever saw as many artery forceps attached to one individual in all my surgical experience. These difficulties and the fact that the operation depends for its success upon primary union of the cut edges, have rendered the method somewhat unpopular in the United States. The earlier criticisms were devoted to the dangers of hemorrhage, sepsis, retraction of the mucous membrane, sloughing and stricture, and no doubt many of the attempts to do this operation by men inexperienced in rectal surgery resulted in these accidents. I have seen no less than ten strictures of the rectum following so-called Whitehead operations, but in all justice to Mr. Whitehead, I am compelled to say that most of these were done after a method far from his own. Recently I have had to repair the anus in one of these cases in which the skin was dissected away for three-quarters of an inch around its margin, and a true ectropion recti was developed. The operator claimed to have done a Whitehead operation, but Mr. Whitehead has insisted

above all things in these operations that no portion of the skin should be removed. The fact that the operation requires primary union for its most perfect success cannot be denied, but it is not a fact that if one or two sutures surrounding the anus give way the whole operation is a failure. I have time and again seen these cases in which small areas of granulation developed, where one or two sutures failed to heal, and yet most excellent results followed.

As to stricture, I am of the opinion that this results not so much from imperfect union of the edges of the wound as it does from taking away too much of the mucous membrane and thus necessitating a sort of plaiting or folding-in of the walls of the gut when this is dragged down to unite it with the mucocutaneous border. This folding-in causes a thickening and adhesion of the parts, a sort of collar, as it were, around the lower end of the rectum, in which new inflammatory material multiplies and causes a sort of fibrous ring or stricture at this point. The same condition has been seen to follow where large areas of mucous membrane have been taken off in attempts to overcome prolapse of the rectum by this method. Inaccuracy and unfamiliarity with the principles and practice of this method are, in my opinion, the causes of most of the accidents following it. As to the time required in its performance and technique, these can be much improved by a little variation in detail.

The operation is a combination of suggestions derived from my surgical confreses. For some of them I do not know to whom to accord the credit. For instance, the fact that the mucous membrane of the rectum, together with its varicosities, can be peeled off from above downward much more easily than from below upward, was suggested to me many years ago, I think, by Dr. Parker, in the University of Pennsylvania, I afterwards heard it mentioned by Dr. Weir, but it was a fact quite familiar to me at that time. The operation, as I employ it, is as follows:

The patient having been prepared as for all aseptic operations, should be placed in the lithotomy position, with the hips somewhat elevated. The two lateral hemorrhoids are caught upon either side of the posterior commissure of the rectum and dragged down. An incision is made through the cutaneous border, and a blunt curved scissors carried upward between the mucous membrane and the muscular wall of the gut to the height of the internal sphincter. It is then worked laterally around the intestine, separating the mucous membrane from the muscular wall at this height, and from this point downward, either with the finger introduced through the wound, or by the aid of the scissors, the hemorrhoids are peeled out of their beds upon the muscular wall until the margin of the anus is reached. This being done upon either side it is an easy matter to cut the cylinder thus loosened from its attachment in the mucocutaneous border. There is usually very little bleeding at this point and what there is may be easily controlled by applying a clamp with a somewhat elongated bite circularly around the flap. The mucous membrane is then dragged down until healthy tissue is reached and the first suture is applied upon one side of the posterior commissure attaching the mucous membrane to the cutaneous border. Little by little the mucous cylinder is then amputated, sutures being placed as rapidly as the tissue is cut. These sutures serve not only to attach the mucous membrane, but also to control bleeding. I have been in the habit of dividing this suture into two portions in order to prevent puckering the rectum, as with a purse string. Recently, however, it has seemed to me better to divide it even

into four portions, as occasionally the anus seemed a little more contracted than I would like. No ligatures and no twisting of the arteries have ever been employed in this operation. Up to this period I have performed it upwards of two hundred and sixty times. In this number I have had one stricture at the site of the operation, and I have seen a stricture one year after the operation two inches above the field. This latter stricture I can in no way account for. For the first, however, there is an easy explanation. The house surgeon of the hospital, not having been present at the operation, supposed that an ordinary clamp and cautery operation had been done. Noticing a little more oozing than usual in this operation, and not wishing to be disturbed at night, he calmly proceeded to pack the rectum without introducing a speculum. As may be supposed, this packing with dry gauze tore the mucous membrane loose and carried it as a folded mucous cuff upward into the rectum. The result of this was considerable bleeding, the collapse of the patient, and I was called to him to examine for a concealed hemorrhage. The concealed hemorrhage was coming from the mucous membrane which had been carried up in front of the gauze and was in nowise compressed by it. The patient was reanesthetized, the bowel washed out and the mucous membrane sewed back in position. It did not unite, however, infection having taken place, and an ugly stricture followed. The operation can hardly be credited with this stricture. The disinclination of my house surgeon to be disturbed at night was undoubtedly responsible for it.

In a general way, however, I do not believe that this operation should be undertaken by those who operate only now and then. It requires familiarity with the anatomy of the rectum. I have actually seen the entire sphincter taken out in attempting it. It needs manual dexterity and good assistants to perform it satisfactorily. The length of time which it consumes in experts varies from nine to twenty minutes, never more than the latter, the average being about twelve minutes.

The patient is dressed with a small drainage tube surrounded by gauze and a rubber capsule is passed into the rectum and held there by a compress of soft gauze and a T-bandage. This is left in position for four days and usually occasions no inconvenience. After this it may be removed and at the end of five days the patient's bowels opened either by enemata or mild laxatives. In seven days the parts are ordinarily found to be united in all of their extent and the patient can be safely allowed to get out of bed and walk around his room. Frequently I have had patients leave the hospital at the end of the first week and go to their work without any inconvenience. There is no great advantage in this operation with regard to the amount of pain which the patient suffers over the clamp and cautery, but so far as the final healing of the parts is concerned it certainly saves from two to four weeks over either the clamp or the ligature.

In certain cases in which there are isolated hemorrhoidal masses I have recently adopted a modification of this method which consists in the application of Earle's forceps to the hemorrhoids, and suturing over them. The hemorrhoid is grasped and dragged down just as for the cautery operation. In the fold attaching it to the gut above one feels for and finds the artery supplying the tumors. A needle threaded with plain sterilized catgut is passed underneath this artery and tied, thus controlling the blood supply of the hemorrhoid. The long end of the thread attached to the needle is not cut off. The Earle clamp is then applied beneath the hemorrhoidal forceps, the tumor is cut off

above, and the suture is carried around and around this clamp, passing through two layers of the mucous membrane grasped by it until the entire wound is sutured. After the sutures are thus introduced the clamp is loosened and withdrawn and the loops tightened thus absolutely bringing together the edges of mucous membrane and eradicating the hemorrhoidal growth.

I have performed this operation something more than fifty times and at first glance it appears the ideal procedure. In one case I have noticed great spasm of the sphincter and a fibrous band surrounding the rectum just below the point at which the artery was tied. Whether this accident is likely to occur in many of the cases, or whether it shall prove a permanent disability or discomfort to the patient, I am not prepared to say, but I cannot report or advocate this operation or any other without frankly stating all accidents and complications which I have seen occur, or which it appears to me may do so. Theoretically, this operation and the Whitehead method seem to cover the ground of hemorrhoids in an ideal way, but practically their technique involves a capacity in the surgeon which is not met in every hamlet, and each possesses potentialities for evil in inexperienced hands which cannot be ignored.

On the whole, therefore, it is my practice to teach students who do not intend to make a specialty of rectal surgery, that it is their duty to avoid these operations and confine themselves to that simple, easy, safe and most efficient method, the clamp and cautery, in the operative treatment of hemorrhoids.

THE HEART IN NEURASTHENIA.

By FRANK PARSONS NORBURY, M. D., of Jacksonville, Illinois.

It is not an easy clinical task to make a diagnosis in neurasthenia. In fact, I believe it requires keen perception and trained analytical consideration of the varied striking phenomena—the medley of symptoms—to mature a diagnosis of neurasthenia. The disease has its limitations in its varied symptomatology, but it requires subtle analysis and exact inquiry to define them. For this reason it is necessary to establish a routine method of inquiry in order to draw the lines of differentiation in this most perplexing disease.

Neurasthenia is, as Allbutt expresses it, “wheels within wheels,” “forming fairly consistent and uniform maladies subordinate to the main disease.” In separating these constellations we are called upon to use to the utmost our knowledge of physical diagnosis and clinical pathology. So dependent, indeed, are the normal functions of the body upon each other that in disease we are more apt to see an exaggeration of activity of these functions, and unless we be upon our guard we are apt to confound symptoms due to exaggerated functioning with disease. Weir Mitchell warns us “to bear in mind that sometimes in nervous people the activity of a normal function is competent to cause distress in other organs or to awaken untusual symptoms.”

The heart, of all the visceral organs, is most apt to confound us in our lack of remembrance of these wise words of caution. Not infrequently the inner wheel—the disturbed action of the heart—is taken for the main wheel, neurasthenia, and a primary diagnosis of some affection of the heart is made. That this should occur is not only possible but probable in many cases of neurasthenia and only emphasizes my belief that the diagnosis of neurasthenia is no easy clinical task. The physician is not doing himself justice, nor is he fair to his patient to attempt to

make a diagnosis in such cases without frequent and if necessary prolonged examinations. It is only by a thorough study of a case that we get down to bed-rock. The diagnosis must come first, and it is the physician's duty to use every means and all the time he needs in which to make it. I am sure if we will but proceed by the routine method of carefully written case records which we can study, we will be less apt to go astray in diagnosis and more apt to bring order out of chaos in diseases in which the nervous system is concerned.

The picture of neurasthenia is improved by the laying in of the detail—history and repeated observations. The heart is always a conspicuous object in a clinical picture, and no less so in neurasthenia than in other diseases. It is always well, therefore, to study this conspicuous subject—the heart—by routine; the data thus obtained is always more reliable and more readily used in summarizing the details of clinical inquiry. It is of most service in the diagnosis of neurasthenia, which is usually diagnosed by exclusion, the indirect method of telling what the patient has by first finding what he has not. The lines of differentiation are thus more easily drawn. The routine of the examination of the heart should be followed in ordinary physical diagnosis, viz.: the history—subjective symptoms referred to the heart, pain, palpitation, irregularity, disturbance of rhythm. Symptoms referred to the circulation—pulsation of the arteries. Symptoms referred to the lungs—dyspnea, cough, etc. Symptoms referred to the nervous system—vertigo, faintness, headache, throbbing of head, Stokes-Adams syndrome of vertigo, slow pulse, loss of consciousness, etc., etc. Symptoms referred to the digestive organs—disturbances of digestion, indigestion, gas, flatulence, nausea, vomiting. Symptoms referred to the kidneys—urine, character and frequency.

Objective Symptoms.—Inspection, area of cardiac impulse, the condition of the arteries, presence of arterial disease, a pulsating abdominal aorta especially being noted, capillary circulation.

Palpation.—Character and strength of impulse, thrills, etc.

When we summarize the facts obtained by this inquiry we find that as Allbutt well says, "we cannot consider the heart apart from its nervous connections." The nervous mechanism controlling the functional activity of the heart is complex and when sufficiently disturbed is evidenced in well-defined symptoms. Fortunately, so perfect is this mechanism that the inhibitory fibers control simple disturbances, and it is not until more profound involvement of this cardiac mechanism that we notice alterations in action.

In neurasthenia we notice changes in heart action, especially as to its rhythm. The rhythm is usually increased, rarely decreased. A fact worthy of note in differential diagnosis, for in organic diseases of the brain, such as softening, tumor or apoplexy, we find a decreased rhythm. Also in toxemia, from poisons circulating in the blood, as in uremia, we find a decreased rhythm. In neurasthenia the rhythm of the pulse is fast, irritable, and in cases occurring in advanced life, irregular. I find in young women sometimes a pulse of 110 to 120. I have one now under observation who for over eighteen months has never had a pulse of less than 110. She counts it daily herself. I take it myself at least once a week. This same patient passes from five to seven pints of urine a day, a fact emphasizing Mitchell's dictum which I stated at the beginning of this paper.

Again, action of the heart may be accelerated by pressure upon some painful point; this is known as "Rumpf's symptom." Palpitation may be present in hysteria, but with it are other notable signs of hysteria enabling a diagnosis to

be made. I have rarely seen a tumultuous heart in neurasthenia, such as seen in hysteria, where the heart tumbles about and becomes very irritable. This is probably due to the fact that in neurasthenia there is physical weakness added to the nervous disorder, hence in neurasthenia we find a weakening of the inhibition of the heart.

Dana says: "It is my belief that cardiac weakness is an important condition in many forms of neurasthenia and underlies sometimes a good many of the other symptoms." "This is particularly true of neurasthenia of more advanced life."

I find that many neurasthenics develop palpitation after taking food. This fact does not necessarily indicate that indigestion exists, but in my experience it usually does. Weir Mitchell in speaking of this says: "Digestion naturally quickens the pulse, and in these people (neurasthenics) the normal pulse passes into palpitation." But in my judgment we have other factors to consider beside the natural quickening of the pulse, one is the mechanical presence of food in the stomach. There may be gastric neuroses associated with the disturbance of the heart so marked, indeed, as to completely overshadow the neurasthenia, leading one to believe that some disease of the stomach exists. The nervous eructations, vomiting, pain and other varied phenomena are not unusual features in neurasthenia. It is well, therefore, to be on our guard and study the whole individual instead of parts, and in this way recognize neurasthenia as the real disease.

In my own clinical experience I find that fully two-thirds of my cases of neurasthenia complain of disturbance of the heart and show evidences of heart weakness. In some the heart symptoms are very prominent, so much so in fact that absolute rest and quiet are imperative to give relief to the distressing results growing out of heart weakness. This heart weakness is a physical fact, demonstrable and evident in its effects. The rapidity of the pulse varies upon exertion or excitement—sudden noises. The mere rolling over in bed has in one of my patients caused a palpitation, exceedingly distressing and persistent. In another the use of the commode caused marked palpitation which continued for several hours. The subjective feeling in both of these cases was that of impending dissolution. In other cases, especially in young women, I have noticed a rapid pulse follow a bath or massage, which occasioned no subjective feelings whatever.

I live in a college town and during the latter part of the school year I am consulted by young ladies, principally students of music, regarding disturbances of the pulse with insomnia, pain, digestive and disturbances. Subjective sensations are noticed in most of such cases and some in a pronounced degree. In all such cases I find usually other evidences of neurasthenia. Neurasthenia occurs more frequently among pupils engaged in the study of music than in any other class of students. Why this is so is self-evident—first, the most successful musicians are those who belong to the neuropathic class. They have the alert, quick perception, quick interpretation necessary to grasp the details, spirit and harmony of music. They love their work—they work long hours at it, thus adding physical fatigue to the mental unrest, and when the anxiety of approach of public exhibitions, recitals, etc., is added, then the strain is too much and neurasthenia results. Usually, the heart symptoms, the rapid pulse, are the first to attract the attention of the patient. The gradual changes go on—no improvement, other symptoms are added—the sensation of pain in the region of the heart. A

feeling of numbness in the extremities—a fullness in the head—some precordial distress—an indescribable oppression—insomnia, etc. This is the stage of irritation, and unless corrected at this period, then follows the stage of depression. Nutrition becomes impaired, the heart muscle becomes more weakened and in consequence the pulse is weakened, more excitable and even becomes irregular. Dicrotic pulse may be noticed in patients past forty years of age. This condition, according to Lehr, is due to vaso-motor change, causing diminished tension of the arteries. It is at this stage that diagnosis may become obscure and difficult. However, by closely following physical diagnosis and interpretation of symptoms, one can by exclusion make the diagnosis. “In so far as the heart is concerned, the separation of neurasthenia from organic disease is established by the absence in neurasthenia of an increase in size, or of murmur save that which may be attributed to anemia.” Again, in neurasthenia bodily effort which usually disturbs the heart action does not markedly disturb the heart in this disease. However, as neurasthenia is not a disease of the will, but a physical entity, we should not permit of physical exertion sufficient to affect the heart.

The prognosis in the heart affection of neurasthenia is of importance. How frequently, indeed, are we asked by such patients, “Doctor, have I heart disease?” And you know heart disease to a patient means a serious affliction. Neurasthenics usually have the heart symptoms until recovery is well advanced. In fact, they are the last symptoms to vanish. Recovery is usually slow, due to the fact that the whole process of recovery in neurasthenia is that of regeneration, improved nutrition and restoration of the equilibrium of the nervous system.

The treatment of the heart in neurasthenia is but the treatment of neurasthenia with attention to the details of heart care and management. The best treatment is rest, body and mind, following the plan of Weir Mitchell, modified to suit the needs of each case. I am not so much in favor of isolation in these cases as I am of diversion as a part of the rest cure. The best tonic is certainly pleasure, if it can be administered so as to meet the indications. Occupation of mind is best for such cases, and the bright story, games, music, etc., are suitable diversions for these patients. The regulation of diversions is a question in which the personality of the individual is a very prominent factor. Some patients do better amid the surroundings of home, others in institutions, and still others away from all appearances of the sick, in travel or at some seaside resort where the sea-air and varied changes of such a place do much toward promoting recovery. The detail of management of a case is largely in regulating sleep, promoting digestion, the administration of tonics, and the regulation of the bowels, careful consideration of bodily nutrition in every way. Food and sleep will promote a recovery and our duty is to so regulate the conditions surrounding the patient that will most speedily bring nourishment to the body and rest to the exhausted nervous system. “Sleep is nature’s sweet restorer” in neurasthenia, and especially so where the heart’s action is at fault. Again, bathing should be watched and carefully regulated. The cool bath in the morning and warm bath at night are potent powers for good in such cases.

As to drugs, I use but few, principally *nux vomica* and combine it with dilute hydrochloric acid in a vehicle of lactated pepsin, taken after meals. It is well to gradually increase the dosage of *nux vomica* until good effects are noticed. *Nux vomica* is a good heart tonic, also stomachic and with the dilute hydrochloric acid it regulates the stomach disturbance, promotes digestion and serves as an excellent tonic to the whole nervous system. As convalescence progresses, the patient should be encouraged to live in the open air, take exercise gradually, and thus pave the way to a resumption of duties and cares of life.

CLINICAL REPORT.

WHAT THE v. LANGENBECK OPERATION ACCOMPLISHES IN INDIVIDUALS WITH CLEFT PALATE.

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The three cases to which attention is called illustrate the value of this procedure even where the operation has been deferred until the patient is fully grown (two instances), and some of the difficulties which the operator has to overcome.

The last patient upon whom I operated for this deformity is a sturdy youth of eighteen. The lip had been repaired by the late Dr. H. H. Mudd many years ago, but with the exception of this one structure, everything was divided, in-



FIG. 1.

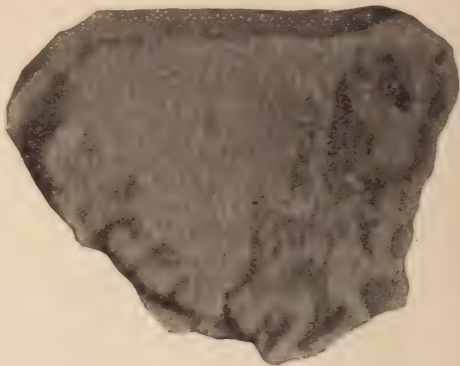


FIG. 2.

cluding the uvula. The two halves of the vault were almost vertical and the interior of the nares were perfectly exposed. Motility of the soft palate was unimpaired.

There was no pronounced catarrhal affection, the young man could swallow perfectly when the head was held well back, but the voice was so imperfect that I could not understand a word he uttered.

The v. Langenbeck operation was done at St. Anthony's hospital, March 20, 1903, under chloroform anesthesia with the head in the Rose (hanging) position. The steps of the procedure, as well as the appearance of the vault before operation will be best understood by consulting cut No. 1. This piece of work may be divided into the following steps: (1) freshening of the edges of the cleft; (2) incisions along the alveolar margins for the relief of tension; (3) elevations of the flaps (mucous membrane and periosteum) from the remnants of the bony arch; (4) section of muscles where necessary to allow flaps to meet without tension; (5) insertion and tying of sutures.

In this case I followed the classical method as above detailed and was rewarded by having every stitch, from the teeth to the tip of the uvula, hold perfectly. Silk was the material used in the uvula and silver wire everywhere else. The knives, elevators and mounted needles which I use in these cases are of my own designing; indeed I find that my ordinary surgical instruments are of little value for this work.

This patient sat up the day after the operation, but was not allowed to talk or have solid food for ten days, at the expiration of which time all the stitches were removed, primary union having resulted as above mentioned. A wonderful change is already (April 8th) manifest in the patient. He was formerly as bashful as a deformed boy could be; now he holds his head up and the tears no longer come when he is made an object of interest. The voice already mani-



FIG. 3.



FIG. 4.

fest the evidences of a marked improvement, though one would hardly expect it so soon. Now, too, the youth can swallow with the head held forward, this effort having formerly been attended by the fluid gushing out his nostrils. The perfect appearance of his palate is attested by the cast (Cut 2), to which reference is invited.

Case No. 2, that of a girl five years old, is cited merely to illustrate one of the inherent difficulties which the surgeon has to overcome when he goes into this class of work. This child had a cleft which was complete as far as the uvula was concerned, the lip being, however, intact. Her speech was much impaired, though she had learned to swallow almost perfectly. The worst feature of this case was the catarrhal involvement of the mucous membranes continuous with that of the mouth, which the patient had never overcome. The operation was done at St. Anthony's hospital October 3, 1902, under the same conditions as those detailed above. The chloroform must be held responsible for an acute bronchitis and broncho-pneumonia which ensued, and which caused the child to cough continuously for weeks. This accident led me to suppose that all was lost, but to my intense satisfaction all the stitches except the three or four of silk in the uvula held perfectly. These I shall replace at a favorable oppor-

tunity. The after-treatment of this case differs in no way from the above. As might be expected, the improvement in the voice has been remarkable, owing to the child's extreme youth.

Case No. 3, to be mentioned now, is one on which I operated at the Rebekah Hospital, April 2, 1901. It has been referred to in these columns before and is mentioned again only to show that much may be expected of the voice even though the patient be well advanced in years at the time of operation. The length of the cleft, not a complete one, is shown by the accompanying cuts, No. 3 and 4; as is also demonstrated the result, which was perfect. This woman was almost forty at the time I operated upon her, and although not more than half the hard palate was involved, the voice was affected to a marked degree. I did not hold out very glowing expectations at her time of life; still the deformity occasioned her so much discomfort that she insisted upon its repair, so I operated at the time stated. Now after two years there has been a change that is remarkable. The patient tells me that many new acquaintances never suspect her of ever having been afflicted by a cleft palate; which is putting the matter a little too strong, though there is perhaps no need of undeceiving her. At any rate, the voice was greatly improved by operation, even after she had used it incorrectly for almost forty years.

TREATMENT OF VERRUCA PLANA JUVENALIS, WITH REPORT OF TWO CASES.

FROM PROF. WILLIAM A. HARDAWAY'S DERMATOLOGICAL CLINIC, ST. LOUIS POLYCLINIC, WASHINGTON UNIVERSITY.

By M. F. ENGMAN, M. D., and W. P. LOTH, M. D., Assistants.

CASE I.—Minnie S., age six years, came to the clinic on May 28, 1902, for relief from a very disfiguring eruption which had existed for about one year. It began with the appearance on the back of the right hand of a pin-point size, flattened, wart-like elevation, at first showing no change in color and causing no subjective disturbance. The lesion gradually increased to the size of a pin-head



FIG. 1.

and assumed a pale pink color. New lesions soon appeared on the hands and face until their number became great enough to cause a disfigurement. When the patient was first seen the lesions were scattered over the backs of both hands, upon the right wrist, on the forehead, nose, upper part of the face and left cheek. The eruption consisted of papules, varying in size from a pin-head to one-eighth inch in diameter, were slightly elevated, most of them round, with

flattened tops and perpendicular sides, while some were oval and convex. The epidermis covering them was stretched, giving to the lesions a glistening appearance. Some of the lesions on the face showed a minute central depression, marking the site of the follicle. The papules were grouped into clusters composed of from three to twelve or more individual lesions, and on the back of the right hand a number of them were arranged in linear form, touching each other, as though infecting a pin scratch, while at each end of this line were grouped three or more larger ones. (Fig. 1.) On the nose there was evidence of an attempt at a similar formation.

Various local antiseptic applications were tried without any apparent effect. The use of salicylic acid in collodion caused a flattening of the lesions to which it was applied, but the wide distribution of the eruption made its general use impracticable. Finally, recalling the successful results reported by Crocker and Brocq from the internal administration of magnesium sulphate in similar cases, the patient was ordered to take ten grains of this salt four times daily, and was given a solution of resorcin, one-half dram to the ounce, to apply to the region involved. To our great surprise, on returning to the clinic four days later, the skin showed a marked improvement, most of the lesions presenting distinct evidence of flattening, with an entire absence of new ones. One week later, under the steady administration of magnesium sulphate and the use of resorcin lotion locally, the skin of the face had entirely cleared, while on the hands only a few lesions still persisted. When the patient was seen one month later, the only evidence of the former eruption was the presence of a few isolated, small, hard papules on the back of the hand.

CASE II.—Myrtle V., age twelve years, presented herself at the clinic on July 17, 1902, with an eruption which had been present for about one year. It consisted of pin-point to pin-head size papules, pale pink in color, on the fore-



FIG. 2.

head and scalp, arranged in clusters and lines. On the back of the right hand were a few isolated lesions. The individual papules presented flattened tops, some of them showing in the center a minute depression at the site of the fol-

liele, and most of them having a translucent, glistening appearance, apparently caused by the stretching of the epidermis. The eruption caused no subjective disturbance, and relief was sought merely because of the disfigurement. (Fig. 2.)

This patient was at once given magnesium sulphate, grains ten, four times daily, and a resorcin lotion for application several times during the day. One week later there was marked improvement, the lesions appearing to be rapidly drying, and the treatment was continued. Several weeks subsequently the improvement had progressed to a very great degree, with every indication that a complete disappearance of the eruption would soon result; an outcome which we could only surmise, however, as the patient failed to return as requested.

The fairly frequent occurrence of warts of this nature, their tendency to appear especially upon the face, and, therefore, the greater importance of their recognition and careful removal because of the cosmetic effect resulting from too active local treatment, appear to us to warrant a brief description of the lesions. They differ very greatly in appearance from the common wart found as a pea-to-finger-nail-sized growth, moderately elevated, and occurring most commonly on the back and face of young adults, middle-aged and often elderly people, and presenting a dull grayish to brownish colored, roughened, papillomatous surface, an appearance usually suggested by the term "wart." The *verruca plana juvenalis*, on the other hand, usually suggests by its appearance a *lichen planus papule* or the lesion of *molluscum contagiosum*. It resembles the ordinary flat wart referred to merely in its flat character. It is more like the lesion of *lichen planus*, with a rounded, square or polygonal base, with flat and smooth surface, rarely larger than a small pea, and usually much smaller, and generally seated upon the face, where they occur, as a rule, in large numbers. In some lesions a scarcely perceptible central depression can be detected, marking the site of the follicle. The lesions are of normal skin color, or grayish, brownish, or pinkish, either discrete or grouped, and when a number of them are very close together, coalescence may take place, resulting in a small, irregularly shaped, or even linear patch, as occurred in one of the cases here reported. While most of the lesions are flat, at times a few will show, especially when recent, a slightly rounded top. Favorite locations are the forehead, toward the temporal regions especially and the hair border, the lower part of the cheeks and the chin, and the backs of the hands, and while they are most frequently met with in children, are also at times seen in young adults. They generally come on very slowly and insidiously and are persistent, lasting almost for months or years, but are not attended by subjective disturbance.

These warts are suggestive of *lichen planus*, but the latter rarely occurs on the face unless the eruption is very generalized, and even then only to a slight extent, while this is the usual site for the small, flat warts. Moreover, *lichen planus papules* are usually larger, of a darker, violaceous color, itch intensely, and tend to form rough, scaly, infiltrated patches, features which are not observed in small flat warts. From *molluscum contagiosum* they are readily distinguished by the absence of the central depression and aperture invariably present in the former.

With reference to the etiology of warts of this character, it is generally accepted that they are mildly contagious, a view supported by cases of auto-inoculation, the frequent development of others from a primary wart, the spreading by contiguity, as observed by Morrow, Allen, Bronson¹ and others, its

spreading from one child to another, an instance of which was recently reported by Vives,² as well as the inoculation experiments by Jadassohn, Variot, Lanz³ and others, referred to by Stelwagon.⁴ However, Kuehnemann⁵ is the only one who has discovered a bacillus, with which he succeeded in producing suggestive lesions in rabbits. There appears to be no doubt that slight traumatism, excoriations, pressure and the like are contributory toward furnishing favorable opportunities for successful inoculation.

Innumerable methods have been recommended for the removal of warts, most of them by external treatment of an antiseptic, caustic or operative nature. The occurrence of lesions in such profusion, especially upon the face in children, makes the use of the vast majority of local measures advised impracticable. It is for cases of this character that we would especially advocate a trial of the method successfully followed in the two cases here reported—the internal administration of magnesium sulphate was recommended by Colrat,⁶ of Lyons, and its beneficial action confirmed by Crocker,⁷ who advises the administration of sufficient of the preparation to produce two or three evacuations daily. Like successful remedies in other affections, however, this one often fails, but its good effects certainly warrant its trial in all cases of this character. Brocq⁸ also reports favorable results from the same treatment. As for local applications, the frequent use of a solution of resorcin or salicylate acid hastens the disappearance of the lesions and at the same time acts as a local antiseptic in preventing the appearance of new lesions.

1. Morrow, Allen, Bronson: *Jour. Cutan. Dis.*, 1899, p. 183.
2. Vives: "Verrues de Famille;" *Jour. Mal. Cutan.*, 1899, p. 463.
3. Jadassohn: "Sind die Verrucae Vulgares Uebertragbar?" *Verhand. der v. Deutschen Dermat. Gesellsch.* (1895), 1896, p. 497.
4. Stelwagon: "Dis. of the Skin," 1902, p. 517.
5. Kuehnemann: "Zur Bacteriologie der Verruca Vulgaris," *Monatshefte*, 1889, vol. ix, p. 17.
6. Colrat: *Lyon Medicale*, vol. liii, 1886, p. 45.
7. Crocker: "Dis. of the Skin," 2d edit., p. 393.
8. Brocq: "Traitment des Maladies de la Peau," 2d edit., p. 852.

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EDITORIAL COMMENT.

TRUTH AND FALSEHOOD IN MEDICINE.

There has recently appeared in *American Medicine*, February 28, 1903, an article by Richard Cabot, of Boston, entitled "The Use of Truth and Falsehood in Medicine; An Experimental Study." This paper is significant, both in respect to the spirit of candor and courage with which the author treats his subject, and in respect to the method which he uses in approaching it. That a sermon on truth might be advantageous to those engaged in the practice of medicine is scarcely to be doubted, but that a moral question so fundamental as this one is should be made the subject of experiment is so striking that our attention is immediately arrested. It is a strange commentary on things medical that such a self-evident moral principle as truth telling should need so eloquent an appeal as is here set forth. It argues that a certain moral twist has come gradually among the followers of medicine, and that each new candidate for its rewards as a calling in life carries a certain amount of this moral blindness deeply rooted in his nature. Cabot's article deals with the aspect of truth in its relation to the practice of medicine; and by truth speaking he means the faithful attempt to convey a true impression, and by lying an intentional deception, however brought about. Truth and falsehood in diagnosis, in prognosis and in treatment are the several headings upon which he touches, and his conclusion, based upon his own experience as a practitioner of medicine, extending over ten years, is that he has not yet found any case in which a lie does not do more harm

than good. This result, it is to be noted, is reached by a purely objective series of experimental tests. The process by which a certain degree of falsifying has been deemed a necessity in practicing medicine is not difficult to point out. The physician in all time was regarded as possessing an amount of knowledge in respect to the diseases which he treated far beyond what was actually known. Such an assumption of knowledge was deemed essential for the good effect it might have upon the patient. In this way from generation to generation was developed this need for resorting to falsehood. To the physician himself the sense of deception involved in such a line of conduct must have always been clear. As a student, this necessity is borne upon him from the time he first sees actual patients in the clinics of his teachers to the time when he has them of his own. The example of his teacher puts the seal of his wider experience upon this departure from a correct moral attitude, so that he comes to regard an ability to lie as one of the necessary talents in following the art of medicine. As a consequence, he enters his work blind to the true moral aspect of the question, a question which, in the other personal affairs of life, his conscience is his only guide as to its solution. Outside of a few possible cases, where the absolute truth might be dangerous to the patient, and, according to Cabot, such cases scarcely exist, truth telling might be regarded as the ideal to be attained in a physician's attitude to his patients in the same way as in the attitude that one should seek to hold between himself and another in the ordinary affairs of life. Any departure from this attitude must, in the long run, carry with it the same degree of harm in medicine as in other human relations. Medicine is but a part of the many activities of mankind, though it touches them all. If falsehood is recognized as an essential principle here, by the same kind of reasoning it must hold for any other part of human endeavor. The exclusiveness which formerly was so peculiar to medicine as a calling has no place at the present time, and the more medicine becomes a science, the less reason must there be for any such demarcation. There is nothing, perhaps, so uniformly decried as a consciously false statement in respect to questions of pathology, chemistry, bacteriology, and in the other more theoretical sides of medicine, yet there is a pardon and excuse ready at hand when in the application of these same questions resort to a lie is deemed necessary. The reason for this difference in the moral attitude is that in one case we are dealing with purely material things and in the other we are dealing with a human being, for whose benefit a lie is supposed to be justifiable. If we clearly analyze our motives in such a case, it comes to us that the human being we attempt to protect is less the patient than it is ourselves. Aside from the purely personal aspect of the question, so amply and fully developed in Cabot's paper, there is another phase of it which demands consideration. It is the place which truth and falsehood occupy in the development of medicine as a whole. It must be acknowledged that upon one's attitude to a question depends, in a great measure, the possibility of its development. It is but a brief step from falsehood in respect to a patient and from falsehood in respect to the thing a patient may be suffering from. It is as brief a step from pretending to a patient that one knows from pretending to oneself that he knows. There is a sort of autosuggestion in such a scheme of action which is as indefinite in its limits as it is treacherous in its effects. Advance in science can come about only through the sincerity of its investigators, and by the sense of truth by which they are imbued. There is nothing so valuable perhaps in a scientist

as his conscience, the scientific conscience, which may be defined as the attitude of truth which an investigator has towards the subject he is studying. Has the practice of medicine, that is, the application of the facts which science has been able to bring out, been held back from its legitimate advances by the lack of such an attitude in the make-up of its followers? An answer to this question is an ever-present challenge to those who attempt to excuse the want of positive advance in the practice of medicine as compared to the progress in its scientific side on other grounds. Too great an insistence cannot be placed upon the purely personal effect which a tendency to falsify has. The moral fiber of an individual is a complex and delicate structure, and no one part of it is strong enough to permit of tampering. A man is truthful not because he tells the truth, but because his attitude toward all questions is based upon a spirit of truth, and he cannot divide his life into two parts: in one of which truth is a convenience and in the other a necessity. If this is done, there will follow more in one case than in another perhaps, but in all to some degree, a lessening of that moral attitude which science demands of its followers. To search for truth in any other than a spirit of truth is an impossibility. Cabot has amply proven that there is no necessity to cultivate a technique of lying in the practice of medicine. His service in showing not only that falsehood is not necessary, but that truth telling in the longer run is a distinct advantage, is a great one and may help us to get rid of a tradition which has done damage to medicine in general and to countless of its followers.

THE MOSQUITO QUESTION.

Major Ronald Ross' great discovery, that malaria is not a water-born, but a mosquito-born disease, has received a nearly equally important parallel by Reed and Carroll, who established the fact that a mosquito, too, was the carrier of yellow fever. It is surprising, even in our fast-living age, to observe what revolutionary changes in a few years these discoveries have accomplished; a promise for much greater results in the future. Their influence even on international relations was pointedly brought out at the last meeting of the Epidemiologic Society in London, where the Central American canal was discussed. In the United States, New York and New Jersey lead the attempts in reform according to these new revelations. The greatness of the task is understood there, as is expressed in the recently published papers of G. A. Soper, H. Clay Weeks and J. B. Smith. But at the same time the almost insurmountable difficulties to perform it are clearly indicated, and it takes the whole enthusiasm of these men to believe that in a reasonable time they will be overcome. That some time we will live in an eldorado as far as mosquito plague and good sanitary conditions are concerned, may be believed, but that meanwhile the malaria will continue to exact its tribute of human life and human energy is apparent, and it is certain that this will be so for a comparatively long time.

Other communities have paid little attention to the subject, and in our city the attempts to do something have not gone beyond the discussion of the price of a few gallons of coal oil. Certain it is, that for our city the malaria question is not an urgent one; the percentage of indigenous cases of malaria in St. Louis is very small, in spite of the thousands of patients treated for malaria.

The greatest obstacle to a complete reform in this respect—to exterminate mosquitoes, malaria and yellow fever—is, of course, the immense sum that must be expended for it. It is generally understood that only radical measures

are here of any avail. On the other side, to exterminate mosquitoes altogether is a superadded claim that, for the crucial problem, the extinction of malaria is not at all absolute. It would be very nice to be free of mosquitoes, but as a rule they do not do much harm, but only annoy us; and, furthermore, they are an important item in nature's household. Would it not be better if we directed our attention to a method by which we would kill malaria, but allowed the poor anopheles to live? Like in other problems, the sober mind of Robert Koch has accentuated in this direction a possibility of far-reaching moment; and not only this, he has directly proven that such a possibility can be made a reality. Kill the plasmodia, do not care so much for the mosquito; and if you want to be rid of them, take your time to do it.

To speak less jocularly, the medical profession could do much more to exterminate malaria than it does. We know that, although the mosquito transmits the parasite, the real danger lies in the human sufferer. Without malaria patients, the anopheles would be as harmless as our *Culex pungens*. On the other side, we know the course of the infection and the time when to attack the parasites so well, and we are so fortunate as to have for the proper time a specific remedy; we have, furthermore, in the examination of the blood (for parasites and for the characteristic histologic blood constitution in malaria) such a reliable method to control our measures, that no malaria patient ought to be dismissed who is not absolutely cured and who, therefore, does not any more represent a source of danger. If, in addition, during the period in which our patients carry parasites in their circulation, we provide for the avoidance of mosquito bites, we do everything that possibly could be done. If exposure to infection is apprehended, the prophylactic administration of quinine in the proper way is all that is necessary. Above all, malaria ought to be recognized early, as we know that in chronic infections the typical course loses much of its characteristics. A fresh infection can always be cured by a very few doses at the proper time. Adequate teaching and the condition of the necessity of blood examination would soon make the real cases of malaria apparent and prevent the promiscuous treating of so-called malaria cases in an arbitrary way, which only does harm because among these cases there may be now and then a real malaria patient.

If the community intends to take into their hands the extermination of the disease, it would be easier and more profitable to make malaria a disease surrounded with the same cautela and measures as the infectious diseases. If every patient could be compelled to stay, during the time of his infection, in a place secure from mosquitoes, the disease would soon disappear. Certainly, the severe and fatal cases would not occur, and an eventual infection pass off without great inconvenience. The yellow fever experience of Havana of the last two years teaches a good example in this respect.

TENDENCY TO OVERDO NEW METHODS.

Mechanical means are largely instrumental in the advancement of medicine and surgery. Indeed, much of the progress within the last half century has been due to the invention or improvement of instruments. But this very fact has induced many to depend too much upon mechanical means for diagnosis and treatment. The subjective and objective symptomatology of the patient is often neglected. It is necessary to consider the patient, not only in the light of what

may be gained by a searching investigation of a certain organ, but to take into account his whole being.

Among the more recent advances for diagnosis may be mentioned the phloridzin test and ureter catheterism. Pielicke (*Centralblatt f. d. Krankh. Harn.-und Sex-org.*) calls attention to the marked irritation of the kidneys that sometimes follows the injection of phloridzin.

Janet (*Ann. des Mal. des Org. Genito-Urin.*, February 1, 1903) says that for a differential diagnosis of ureter from bladder infection, nothing is better than ureter catheterism; but, as it is impossible to sterilize the bladder, it is a dangerous procedure, because of the likelihood of carrying infection to an otherwise healthy ureter.

Gould (in the *American Jour. of Med. Sciences*) publishes two cases of complete double ureter, quoting eight other cases from literature, and says that the anomaly of double ureter on one side is quite frequent. In fact, Munro (*Ann. Surg.*, May, 1902) publishes a case in which a ureter catheter drew clear urine from a ureter while around the catheter exuded free pus into the bladder, which was due, as found out later, to a pus-distended ureter joining a healthy ureter just before it entered the bladder. The catheter had tapped the healthy ureter beyond its junction with the purulent ureter.

Such instances as these emphasize the fact that grave mistakes may sometimes be made if too much stress is laid upon these measures of precision, and the information gained by a more general examination of the patient is neglected. They should be considered, therefore, as only one aid to diagnosis and not at all conclusive. We are often led by our enthusiasm over new methods to neglect the more general information gained from the consideration of other and more important evidences of disease.

LABORATORY FOR STUDY OF ABNORMAL CLASSES.

There is an effort in our country to establish at Washington a laboratory to study the abnormal classes. This effort has been especially endorsed by the medical profession of our country. This is in reality an endeavor to develop a work already begun in the Bureau of Education at Washington. In a little corner of this bureau this work has been carried on under many difficulties for the last ten years; it has produced six government publications on crime and related subjects, which have become almost as well known in Europe as in this country. Some of these works are used as reference or text-books in our universities, and some have been translated into different languages. In brief, this work has been well received by the medical and scientific world, notwithstanding it is somewhat of a pioneer nature, and, therefore, is liable to encounter special difficulties in the way of prejudice, ignorance, misinterpretations, in addition to the unavoidable mistakes to which all pioneer work is subject.

In the last Congress a bill to establish a laboratory to develop this work was unanimously reported by the Judiciary committees of the House and Senate, committees whose members are some of the leading jurists and statesmen of this country. In addition to such endorsements, this work in the Bureau of Education has been considered carefully by numerous religious, legal and scientific associations of highest rank, and resolutions have been passed by them favoring its development. The International Congress of Criminology of Europe, after discussing thoroughly the plan of this work, passed a resolution commending

such work, and sent copies of their resolution to leading members of Congress and of the executive branch of the Government. As this Congress consists of the chief specialists of the world in these lines, this alone should be sufficient endorsement. We have mentioned somewhat in detail the support this work has, to show plainly a most peculiar if not astonishing condition of things. Instead of this work being encouraged by the Commissioner of Education, it has not only been discouraged and quietly opposed, but even dropped out of the Government on his recommendation. In doing this he practically sets himself up not only against the medical profession of this country, but the highest authorities in these lines in the world.

When it was asked on the floor of the House why the appropriation for this work was omitted, the chairman of the committee in charge of the matter said that his committee did not go into the merits of the matter at all, but simply accepted the recommendation of the Commissioner of Education. This action of the committee was, of course, the usual one, since the recommendation of any head of a bureau is followed, especially when reductions are asked for.

Here, then, we have a federal officer in the name of the Government setting himself against the opinion and the desires of large bodies of learned associations all over our country. It is well known that the present Commissioner of Education has practically no scientific training, his life being devoted mainly to metaphysics and to educational matter. Whatever knowledge of criminology, medicine or science he may possess is theoretical or book knowledge. This is not the kind of knowledge that gives weight to opinion. And yet the opinion of this official with second-hand knowledge is allowed to defeat the wishes of numerous learned associations and specialists who have practical acquaintance with the field of work. It must be remembered also that these men are thoroughly educated men, many of them much better than the federal chief himself.

In dropping a scientific position out of the Government in this way, the Commissioner did an unprecedented act, and scientific men in the universities of our country regard it as a most effectual way of telling the public that such work, no matter how much desired and highly recommended, is not wanted in the government.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Concerning Sea-Sickness.—BINZ (*Centralblatt fuer Innere Medicin*, February 28, 1903) concludes that sea-sickness is due to anemia of the brain, and that the shaking of the vessel causes a contraction of the arteries of the head, which brings about this anemia. Acute local anemia has here, as in other cases, a tendency to produce nausea and vomiting. He would explain the periods of rest and ease by the fact that the act of vomiting, and the violent action of the abdominal muscles forces more blood to the brain. This overcomes for a time the anemia and its consequences. The stomach plays only a passive role, and is centrally stimulated whether it contains food or not.

In the treatment of sea-sickness means must be employed which encourage a flow of blood to the brain. Of chief importance is the horizontal position. Several hours before one goes on board the vessel he should take a hearty, nutritious meal. Internally, those drugs are indicated which bring about a dilatation of the blood vessels of the brain. Of these, chloral hydrate and amyl-nitrite have been found the most efficient.

Ileus Resulting From Thrombosis of the Vena Mesenterica.—REITZENSTEIN (*Muenchener Medicinische Wochenschrift*, February 10, 1903).—The most prominent symptoms in the case here reported were the gradual development of pain in the abdomen and diarrhea, and the appearance of blood in the stools. Two days later the pain practically disappeared, the stools became less frequent, still containing blood. On the third day there could be felt in the region of the ascending colon a marked resistance. The patient rapidly became anemic and died in collapse. The diagnosis before death was that of ileus due to paralysis of the bowel following thrombosis of the vena mesenterica, which diagnosis was verified by post-mortem. In the differential diagnosis there were taken into consideration ileus due to strangulation, obturation, peritonitis and thrombosis of the mesenteric vessels.

A consideration of the symptoms described above, and the presence of pronounced varicose veins on the lower extremities, led the author to a correct diagnosis.

Acute Inflammation of the Sigmoid Flexure Due to Fecal Stagnation.—BITTORF (*Berliner Klinische Wochenschrift*, February 16, 1903), describes a series of cases of acute inflammation of the sigmoid flexure, characterized by circumscribed area of tenderness in the left iliac region with marked resistance, frequently a sausage-shaped tumor, pains in the head, back and joints, intense weakness, fever, etc.

This condition is due to stagnation of the feces in the S. Romannum, as a result of interference with the peristaltic action of this portion of the bowel. The etiologic factors are congenital or acquired weakness of the muscles, anomalies of position, stenoses, etc. The feces collect gradually in the haustra of the sigmoid flexure increasing gradually in size and becoming, through absorption, harder in consistency. The bowel becomes dilated and the mucous membrane inflamed through the mechanical irritation of the fecal mass. Most often this

inflammation involves only the mucous membrane, but sometimes produces a perisigmoiditis, and occasionally even results in abscess formation.

These cases respond promptly to proper treatment, but have a tendency to relapse if proper precautions are not observed.

A Study of Pancreatic Tumors.—EHRlich (*Muenchener Medicinische Wochenschrift*, March 3, 1903), reports two cases of pancreatic tumors: one an endo-thelioma, the other a sarcoma, which presented, clinically, classic symptoms of pancreatic cysts. It was even difficult to determine the nature of the tumor through the abdominal incision until the tumor wall itself had been incised. The disturbance in the abdomen was first manifested through pain more or less severe radiating toward the back. The tumors were discovered shortly after the development of the pain. The bowels were constipated and the patients lost weight and strength rapidly. They soon attained the size of a man's head, were smooth and quite elastic. The stomach and transverse colon lay in front of the tumors. Through laparotomy, the surface of the tumors were found perfectly smooth and fluctuant. Puncture revealed a brownish sero-sanguinous fluid.

All of these points are typical of pancreatic cysts, and yet in both cases the tumors were malignant. The probabilities are that the epithelioma in the one case and the sarcoma in the other developed in the walls of preformed cysts. The author suggests that malignancy should be suspected in cases of large pancreatic cysts, which are not of traumatic origin, and which are found in old people. He warns also against the employment of puncture for diagnosis, because in cases like these nothing would be gained thereby and the patient is subjected to the danger of having the peritoneal cavity filled with the contents of a malignant tumor.

Aneurysm of the Kidney.—ZIEGLER (*Centralblatt fuer die Grenzgebiete der Medizin und Chirurgie*, January 3, 1903).—Aneurysm of the kidney is one of the rarest forms of aneurysm. Its origin is often traumatic. Of nineteen cases reported in medical literature twelve were of traumatic origin and seven spontaneous. When small the aneurysm is rarely detected during life. As it increases in size it causes atrophy of the kidney. Sometimes they burst into the pelvis of the kidney and produce fatal hemorrhage. Occasionally it produces a sack into which frequent small hemorrhages take place. Bleeding and tumefaction are the important signs. Pulsation is usually absent. Pain may or may not be present. The prognosis is bad. All cases not operated on die sooner or later from this cause. Four cases have been operated on and three recovered.

The author gives a detailed history of the twenty cases which he collected from the literature.

A Case of Banti's Disease.—KAST (*Wiener Medicinische Wochenschrift*, No. 10, 1903) reports a case of Banti's disease in which certain symptoms and the condition of the blood verify the statements of Senator. Examination of the blood showed 2,500,000 erythrocytes, 5000 leucocytes, 60-65 per cent. of hemoglobin. Poikilocytes and microcytes were present. The disease is recognized clinically by the existence of a primary splenic tumor and anemia, icterus, urobilinuria, and ascites, and by a decrease in the quantity of urine.

A Study of the Etiology of Leukemic Diseases.—CHINCLAR (*Wiener Medicinische Wochenschrift*, March 7, 1903) studied a series of leukemias, and concluded therefrom that leukemia is not an infectious disease in the sense that it is produced by a specific organism, though it develops under the influence of various acute and chronic infectious diseases which affect changes in the hematopoietic organs. These alterations lead in time to an excessive hyperplasia of the lym-

phoid elements, accompanied by a migration of the leucocytes into the circulation. To the latter factor is due the clinical picture of leukemia.

A Physician's Holiday in Vichy.—TYSON, Philadelphia (*Philadelphia Medical Journal*, February 14, 1903), presents in this article a careful study of the therapeutic uses of the waters at Vichy. There seems to be a sort of elective affinity between the different waters and the organs affected.

L'Hopit   is acknowledged the water for the stomach, Grande-Grille for diseases of the liver, and Celestins for the urinary system, etc. In drawing a comparison between the waters of Vichy and those of Carlsbad, the author believes that pure gastric derangements are better treated at Vichy, while diseases of the liver and upper alimentary canal are better treated at Carlsbad. Cases of hepatic torpor, biliary lithiasis and gout should be sent to Carlsbad; on the other hand, cases of renal lithiasis of the uric and oxalic kinds should be sent to Vichy. As to diabetes, there is practically no choice as to springs; only the mild cases are benefited at either. Vichy is especially suited to the delicate and nervous, and those to whom active treatment is harmful, while Carlsbad seems better suited to the stout, strong and plethoric with phlegmatic temperament. Persons in whom there is a tendency to looseness of the bowels should go to Vichy rather than to Carlsbad.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

The Transplantation of Detached Skin Flaps After Krause.—WIDMANN (*Beitraege zur Klinischen Chirurgie* Bd. xxxvi, Heft 3).—In this method the skin alone is taken without the subcutaneous fat, in contradistinction to that of Hirschberg, who takes fat and all. The two main considerations for success are: (1) asepsis, and (2) proper preparation of the surface to be grafted. This new skin, like all the structures (cornea, cartilage, etc.) which have no vessels, must be nourished by diffusion, hence one must take care not to transplant upon a tissue which has no vessels. The great advantage which is gained over the older Tirsch grafts is that one succeeds thus in giving his patient a new skin which contains elastic fibers as well as papill  , hence a covering that can be lifted from its bed as well as slipped in every direction. In some cases hair and glands remain intact, thus it is seen that entirely different results are attained than are possible in the old way. Especially is this valuable where joints, fingers, etc., are concerned. It is no longer permissible to take skin from animals or other individuals, because the first won't grow and the second may communicate disease to the new host. Stress is laid on the fact that a "dry" technique is to be used, and that the graft is to be sewn in place or else the size be one-third larger than the defect, that it may overlap considerably. Dry dressings are used, the first being changed in five days, but six or eight weeks are consumed before the healing is complete.

Symmetrical Deformity of Both Hands and Both Feet.—MAGNANINI (*Revue de Chirurgie*, No. 3, 1903).—The first of the author's cases is, he claims, unlike anything to be found in the literature of the subject. The manifestation is one of divided or cloven hands and feet, the details of which will be described later. One way of explaining the phenomena is by the theory of fetal adhesion, thus the entire hand or foot being prevented from developing at the same time.

Heredity plays an important part in such deformities; one family is quoted in which six succeeding generations were so afflicted. In this child's hand the middle finger was missing and a radiograph showed the metatarsal bone to be absent as well, in fact the split extended clear to the carpus. However, the use of the members was in nowise impaired. In the same individual the first and second toes of both feet were missing, but the metatarsal bones were there, the second being attached so the first and the third to the fourth. The author operated upon the hands and succeeded in uniting the divided portions without great trouble.

A second case is also shown, in which the second finger on both hands is absent; here, however, the split is not so high as in the first, and the x-ray shows the metacarpus to be intact, but deflected toward the third.

The Treatment of Acute Perforation-Peritonitis in Typhoid by Laparotomy and Ileostomy.—ESCHER (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Bd. xi, Heft 1).—Statistics show that certain features of the disease have a decided influence in determining the outcome of an operation for perforation. For example, when it occurs in the second or third week, there recover but 14 per cent., in the fourth week 37.5 per cent., and after this time 57.1. It would seem that the individual gains in immunity. After one perforation has been withstood, a second, pouring its fetid material into the gauze pack left from the first operation, rarely does much harm, because the peritoneum is no longer in condition to resorb much. Of the operated cases more have recovered where the perforation was not found than have under the opposite circumstances, hence the author offers the idea that perhaps the mere fact of the intestinal wound being left open favors recovery. Surely, at any rate, the possibility of ileus is removed and the diseased intestine relieved from work. Escher has had occasion to operate upon four of these cases and three recovered, although the perforation was sewn up in none of them. His idea is to bring the diseased coil to the skin wound, suture it there and then pack the cavity as well as introduce drain tubes. The most remarkable thing about this 75 per cent. of recoveries is that the operations were performed at a time when only 14 per cent. to 37 per cent. are expected to get well. The time which the operator saves by the process just proposed seems to be the least of the two advantages gained; the explanation of the writer's success must lie, as he claims, in the fact that an ileostomy, as is well known, favors recovery in peritonitis by draining the distended bowel.

Extirpation of a Cancer of the Thoracic Portion of the Œsophagus.—DEMOULIN (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 4).—This remarkable operation was performed by Faure on the 12th of December, 1902. It was done through two incisions, one in the neck, which allowed of the exposure of the organ on the right side, and a second, which was carried between the shoulder-blade and the spinous processes of the vertebrae sufficiently long to allow of the resection of the six upper ribs. Great stress is laid upon the value of cutting the first rib; the author says that no matter how many others are divided, nothing can be accomplished until the first is cut. Through the incision in the neck it was possible to isolate a portion of the Œsophagus and throw a double ligature around it. Then the chest was widely opened and a great section of the organ exposed without difficulty, there being nothing in the way except the asagos vein. After the diseased portion had been isolated, the two ligatures in the neck were tied and the tube cut between them. Next the lower one was passed into the thorax and the Œsophagus stripped down by traction exerted upon this cord. The organ was next divided in like manner between two ligatures deep in the chest, and removed easily. Only two vessels had to be tied in the whole operation, after which the lower end of the upper segments

was sutured to the skin of the neck. The patient was put to bed in good shape, but grew rapidly weaker, and died the day after the operation; the cause of death was not revealed by the autopsy.

Ambulatory Treatment of Fractures of the Leg.—(*Wuerzburger Abhandlungen aus dem Gesamtgebiet der Praktischen Medizin*, Bd. ii, Hft. 9).—The conclusions to which the author comes after a long and painstaking consideration of the subject are as follows:

1. Ambulatory treatment of fractures means one thing to one and something else to another; it may mean an orthopedic apparatus, a plaster cast or some sort of extension.

2. The writer understands the term to mean merely any sort of splint which holds the fractured bone in place while the weight of the body is placed on the leg.

3. A plaster case can be used only when there is no difficulty in the reposition of the fragments or when none of the other well-known contraindications to plaster exist.

4. In a fracture of the diaphysis, both fragments are to be immobilized, and jointed or removable splints are only to be tolerated after the second week.

5. A fracture of the thigh allows of the application of a plaster case on the first or second day after the injury, but it must not be placed upon the lower leg at once.

6. The apparatus, of whatever sort, is applied best of all over underwear with no folds in it.

7. Unless the technique be perfect, the plaster case is the most dangerous form of splint.

The Lymph-nodes of the Submaxillary Salivary Glands.—BRUNN (*Archiv fuer Klinische Chirurgie*, Bd. lxi, Hft. 3).—Since it is known that cancer of the lip or tongue can recur in the submaxillary salivary gland it has become the custom in Bergmann's clinic to remove this structure along with the lymphatics. The glands studied by the author were from seven cases of lip cancer, two of tongue cancer and twenty-three cadavers in which there was no such disease. He found at the hilus of the gland and extending into it, a little septum consisting of two layers, between which the vessels enter: just here, a few millimeters beneath the surface of the gland, he saw, in a few instances, a small lymph-node hidden. This explains a case which occurred in the clinic; after cancer of the lip, a similar affection of the gland was found, not confined to the lymph-node, but having penetrated its boundaries and infiltrating the actual gland substance. It may now be said that the gland contains a lymph-node, in clinical but not in anatomical sense, since they are really separated by a light connective tissue wall. Then, to clean out all the glands in the region, the submaxillary salivary gland must be included.

Gastro-Intestinal Perforations and Their Diagnosis.—F. G. CONNELL (*The Journal of the American Medical Association*, April 4, 1903).—This article, like the one of a few years ago by the same author on a new intestinal suture, marks an advance in abdominal surgery. Here are considered first the difficulty of making a sure diagnosis from the symptoms while there is still time to do something, that is, before the appearance of peritonitis; second, disappointment and danger of a laparotomy for exploration, if the same is to be made in every case.

It is not possible in an abstract to do more than merely touch upon the author's ideas, the original article must be read for all the details of the experiments which he performed, and the inherent interest of them will repay a perusal. He bases his idea upon the injection of filtered air or saline solution into the peritoneal cavity, hoping after withdrawing the same to find changes pro-

duced by the presence of intestinal contents, provided there be a perforation; and he was rewarded for the effort, as will be seen. Control experiments with the intact peritoneum gave negative results, which makes Connell's conclusions of more value. Using air he found that the peritoneum soiled with the contents of the colon furnished evidences of sulphur combinations in every instance, but the test was negative, as one might expect, when the lesion was in the small intestine. When the perforation was in the small intestine, and saline solution was forced through the peritoneal cavity, there were found in it evidences of ammonia, peptones, bile salts and indol. These interesting results are surely of sufficient value to warrant practical application.

Which is to be Preferred, the Expectative or the Operative Treatment of Tuberculosis of the Knee-Joint?—KOENIG (*Berliner Klinische Wochenschrift*, March 9, 1903).—When the operation is done by modern methods the mortality is not higher than in the conservative form of treatment. An operation (total or partial resection) promises a rapid recovery, but a stiff joint; while, on the other hand, the methods like immobilization, injections, stagnation, etc., if they have a good result at all, give more movement but require years for the accomplishment of it. The author prefers the operative method in adults especially, and says that a man or woman so treated may return to work, as a rule, in four or five months.

Prophylaxis in the Chloroform Narcosis.—FEILCHENFELD (*Centralblatt fuer Chirurgie*, No. 7, 1903).—The author's idea is to prevent, first, the nervousness which comes before a major surgical operation. At the same time cardiac muscular affections of moderate degree as well as nervous heart manifestations are decidedly benefited. Small doses of tincture of strophanthus have all the desirable effects just quoted, according to our author, and he mentions several prominent surgeons who have taken to his way of thinking. He says that the pulse must be brought down to 80, at least, before one can operate without danger of "heart failure." If this be not possible in the way indicated, then ether is to be used, it may be with morphine.

A Case of Spleen Enlarged From Malaria Successfully Treated by Excision of the Organ.—BRIGNOLLES (*Archives Provinciales de Chirurgie*, February 1, 1903).—The patient was a woman, twenty-seven years old, who entered the hospital with a tumor so large that it filled out the entire left side of the abdomen. She had suffered from malaria for seven or eight years and considered it to be gradually increasing in severity. Her movements were so much embarrassed by the presence of the tumor that she was compelled to give up her occupation. The blood examination revealed an increase in the whites as well as a slight decrease in the reds. There were none of the classical contraindications to operation, so the abdomen was opened and the organ removed. No adhesions were found and a pedicle could be easily formed; so a double silk ligature was applied and the spleen removed. There was no hemorrhage at all, the procedure taking but twenty minutes. The patient made an uninterrupted recovery, there being but a slight post-operative change in the red corpuscles, while the whites underwent a vast but temporary increase.

Animal Experiments in the Reunion and Transplantation of Blood Vessels.—EXNER (*Wiener Klinische Wochenschrift*, No. 10, 1903).—In four dogs the central end of the common carotid was joined to the peripheral end of the external jugular, with the interesting result that the line of union was found to have contracted until the lumen of the vessel was obliterated within a few weeks after the operation. In six animals both these vessels were divided transversely in the middle of the neck and an anastomosis made between the central ends of each,

and another made between the peripheral ends. From this latter procedure it was possible to make several interesting deductions. Immediately a great distension and pulsation was seen in the vein which was exposed to the influence of arterial pressure. But a few days later a thrombus was found filling every vein so treated. Where, however, the new opening was made very small no such change occurred. Where the vein became greatly distended it let the plasma through in every instance. There is then no practical value in such surgery for the treatment of an obliterated artery. The author transplanted sections of both veins and arteries, finding as a result that thrombosis occurred in every one. This he explains by the fact that the vasa vasorum of the transplanted portions are destroyed, hence the wall is no longer nourished and the lining shed off.

Extra-Dural Hæmorrhage From Rupture of the Middle Meningeal Artery.—JOPSON (*Annals of Surgery*, March, 1903).—The author reports three cases, in two of which the diagnosis was correct and one in which it was not, but fortunately all three recovered. The first fell on the head, and presented gradually increasing manifestations of pressure upon the cerebral substance. At the operation a large clot was removed but the bleeding vessel not seen. The pulse immediately rose from 48 to 92, and the child rapidly got well.

The second case was one of contusion, and, though there was no fracture, as there had been in the first instance, the artery was found to be ruptured, and after removal of a large clot the pulse, which had been 48, rapidly rose to 72.

The third patient had suffered a severe contusion; there was no slowing of the pulse here, and, as has been remarked, there was no clot found.

The Twisting (Torsion) of a Fat Hernia and Its Results.—WENDEL (*Deutsche Zeitschrift fuer Chirurgie*, Bd. lxxv, p. 388).—There appeared in a forty-seven-year-old woman suddenly a swelling under the right Poupart's ligament, together with symptoms of strangulation; she was operated upon, when to the surgeon's astonishment there was seen to be nothing but an empty hernial sack, twisted twice upon its axis. There was present a considerable amount of fatty detritus, which is supposed to have been the result of the cutting off of circulation from the large amount of fat which had surrounded the sack in health. The author adds the remark that this is the first recorded case showing that a herniation of mere fat can cause the symptoms of incarceration.

How Can a Resection of the Rectum be Made an Aseptic and Bloodless Operation?—WENZEL (*Muenchener Medizinische Wochenschrift*, March 10, 1903).—This author is an assistant of Witzel, who has already made several original and valuable contributions to the surgery of the digestive apparatus. The patients who have escaped the perils of hemorrhage and shock have many of them died from the infection resulting from a stitch giving away after an effort to preserve the anal portion of the gut. This accident has happened as a result of the pressure of feces, or from localized gangrene. Schede's preliminary artificial anus improved the statistics mightily, but the disadvantage of this is that it requires three distinct operations. Witzel does not try to preserve the anus in any case, but makes a high amputation always and then creates a new anus in the gluteal muscles. Another distinctive feature of his method is the preliminary ligation of all three hemorrhoidal vessels, and this combination of favorable circumstances has enabled him to save every patient on whom he has operated. The author argues with a certain degree of logic when he states that the functional result is satisfactory in only a few of those rare cases in which a good anatomical result is accomplished with preserving the anus, etc., so it seems to him best to neglect it altogether, since the mortality is thus rendered so much lower thereby.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Sarcomata and Endotheliomata.—L. BURKHARDT (*Beitraege zur Klinischen Chirurgie*, Vol. 36, Heft. 1).—Burkhardt examined, in this very extensive and careful paper, over ninety so-called sarcomata as to their histogenesis. Only the general conclusion to which this led him can here be mentioned. He finds that the old definition of Virchow of sarcomata arising from fixed connective tissue cells is not true, and that in the formation of any sarcoma the endothelia of the lymphatics, the endo and perithelia (adventitia cells) of the blood vessels take part. All of these cells have the quality to proliferate and to form connective tissue cells. The role that they play singly in the individual sarcomata varies greatly as to their quantity, but as a rule the endothelial portion predominates in all sarcomata, even in the spindle cell form; consequently, all sarcomata are more or less endotheliomata, and if the designation sarcomata is retained, it ought to be in the above represented meaning and not in that of Virchow. The starting point of sarcomata is always given in a certain number of such fibroplastic cells, that is influenced by some unknown irritation. The single cells of such a group do not proliferate with the same propensity, and thus at the peripheral portions often the histogenesis of the tumor is made visible. Sarcomata, too, do not "infect" other tissue cells secondarily; all of their cells are derived from the primary group. Clinically, also, a distinction between sarcomata and endotheliomata cannot be made. The degree of malignancy depends upon the richness in cells, their independence from the intercellular substance, and their quality of proliferation; in the main part, however, on the region of the body where the tumor is formed. The richer this region is in the supply of lymphatic structures (lymph vessels), the easier and the more persistent will be the metastatization.

The Binding of Hemolytic Amboceptors.—MORGENROTH (*Muench. Med. Wochenschr.*, 1903, No. 2).—Although from the beginning Ehrlich's main endeavor was to establish the chemical nature of the processes observed in hemolysis, bacteriolysis and immunity in general, and although he and his disciples succeeded in positively demonstrating that all of these processes are quantitatively and in other respects subject to the same conditions as other chemical reactions, it must be received with great satisfaction that it can be shown, also, that the laws of physical chemistry obtain for them likewise. As entering into the details of Morgenroth's paper would ask for too much space, it may only be said that he utilized the observation of the binding of multiple quantities of amboceptors to blood corpuscles for his study—the fact that a blood corpuscle can combine with many times the number of amboceptors that are necessary to bring about its destruction.

By changing the conditions (temperature, etc.) in which hypersaturated corpuscles were kept, he was able to show that combined amboceptors can again become free till a certain equilibrium is established, a phenomenon that can be successively prolonged until at last only the amboceptor-unit, the quantity necessary for solution, is left on them. Taking the fact of supersaturation together with this successive diffusing of amboceptors into the surrounding medium, the nature of the process appears in the light of a reversible process. We have to deal here, too, with electrically inactive substances and the electrically active dissociation products. The next step will be the study of the variations of the electric conductivity of these solutions.

The Ductless Glands as Organs of the First Importance in Vital Functions, etc.—CH. E. DE M. SAJOUS (*Philadelphia Medical Journal*, March 7, 1903).—This is a preliminary article, announcing a great work written by the author and to be published soon. It is intended, at last, with one brilliant idea, to settle the much discussed and as yet almost inexplicable nature of the functions of the ductless glands, a subject that has taxed the strength and energy of hundreds of our most eminent investigators, and that, nevertheless, has up to today remained bare of any scientific explanation. To the author of this article the conception that the suprarenal glands, the thyroid and the hypophysis, form a system regulating all of the functions of the body, explains everything. A hypothetic substance, the adrenoxin, supplies the oxygen, and its qualities are the basal factors for the proper vital conditions. Whatever the material offered in evidence for such a theory may prove to be after the publication of the book, is a matter of indifference. It is certain that the author cannot produce sufficient evidence from his own work, for this would be impossible for one man with ever so many collaborators. If the material is derived from the results of already published works of others, and is utilized in a way of which this paper gives a foreboding, we may realize a deep disappointment. However, it is perhaps good that we have the announcement of what is coming.

Infectious Epithelioses and Epitheliomata.—A. BORREL (*Annales de l'Inst. Pasteur*, January, 1903).—Under the name of infectious epitheliôses A. Borrel comprises a number of exanthematic diseases, as sheep-pox, foot and mouth disease, vaccinia, variola, etc. They all have in common a predominant involvement of the stratified epithelium in the form of proliferation and secondary softening, and the fact that in none of them the causative micro-organism has as yet been discovered. All of them, however, have been the playground for parasite-hunters, and numberless formations found in the lesions have been described as protozoa, etc. (bodies of Guarnieri, etc.). Although careful investigation in no case has been able to prove these claims (including the latest publication about cultivating the vaccine virus), many still adhere to this opinion. Borrell has made a careful and beautiful investigation of the whole question on the most favorable material, and has come everywhere to the conclusion that the so-called parasites are nothing but polynuclear leucocytes, engulfed by the epithelial cells and gradually disintegrated in their protoplasm. The paper is beautifully illustrated, and the pictures are very convincing. That the peculiar formations found in mollusum contagiosum belong to the same category is probable. In a carcinoma that could be inoculated from one mouse to another (Jensen (in 1902) described a similar inoculable carcinoma in the mouse). Borrel has found, also, inclusions which very much resemble the epithelioses forms, and most likely must be interpreted in the same way. It may be mentioned here that Apolant and Embden (*Zeitschr. f. Hyg. u. Infect. Krankh.*, Vol. 42, Heft 3), from the Ehrlich Institute in Frankfort, have published lately their studies on the cancer-inclusions, in which they come about to the same result—that all of these formations are products of degeneration

Experimental Study of Ovinia (Sheep-pox).—A. BORREL (*Ann. de l'Inst. Pasteur*, January, 1903).—This paper, written by A. Borrel, is very important in several respects. Ovinia; so nearly related to variola that even today the discussion about its possible identity with it are not closed, has in Borrel's hands become very suggestive as to unsettled questions about variola. In the first place, he has, by filtering the virus through bougies, shown that it passes their pores; in other words, that the individual ovinia organism must be very minute. This, in addition with his histologic investigations (above reported), does finally away with the coccidia, yeasts, etc., said to be the etiologic factors in these dis-

eases. On the other hand, these experiments have shown the fallacy of the conclusion that organisms passing through such filters must necessarily be invisible. With the virus, diluted with tap-water, very small bacteria pass through. All of these bacteria are motile, while bacteria of equal size, but immotile, do not penetrate the filters. This throws, possibly, a light on at least one morphologic character of the ovinia and variola organisms.

By very ingenious methods Borrel was able to procure large amounts of ovinia virus, with which (on sheep) he made immunization experiments. He thus obtained a serum with remarkable neutralizing power in vitro and in the animal organism. He established not only its protective capacity, but also that the developed disease was arrested by it and deprived of its fatal consequences. The experiments have been carried on on a large scale, and are conclusive.

Tetanus Bacilli Found in Heart's Blood.—(*Deutsche Medicin. Wochenschr.*, 1903, No. 10.)—During the last few years several cases of tetanus have been reported in which it was claimed that tetanus bacilli had been isolated from places far away from the site of the infection. In artificial tetanus, too, bacilli were discovered in the blood of the animals. This observation, so contradictory to the usual teaching about the biologic behavior of the tetanus bacillus, has again found a confirmation by O. Hohlbeck, who published a case of traumatic tetanus, from the heart's blood of which he could isolate the bacilli. As certainly these occurrences are the exceptions, an explanation must be sought for, and this is most likely found in the mixed infection that in many cases accompanies tetanus. It is believed that the lymph current, produced by these secondary pus organisms, tends to carry away the tetanus bacillus also from the site of infection into the circulation or into other organs.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

Concerning Transfusion.—W. ERKLENTZ (*Ther. d. Gegenw.*, 1903, No. 1).—The most important factor in the beneficial influence of salinetransfusion is the dilution of the toxic substances circulating in the blood, and their more rapid excretion by means of the kidneys. The solid constituents of the urine are considerably increased after transfusion. Experimentally, also, it has been shown that after intoxication by means of a variety of substances, the poison is more rapidly excreted after transfusion than is otherwise the case. The most effective saline solution for this purpose is not the isotonic one (0.9 per cent.), but the one in ordinary use (0.6 per cent.). The condition of the kidneys is of the utmost importance for the success of this procedure. If they have been too severely injured by the poison, the good effect of transfusion is rendered impossible. The best results were obtained in cases of sepsis, uremia and severe anemias, which last are now considered as of toxic origin. In cases of sepsis the procedure is followed by a fall of temperature and a diminution of severity of all the symptoms. In a case of malignant endocarditis with extremely painful metastases in the joints, both the pain and the swelling disappeared almost at once. One patient, comatose from puerperal sepsis, regained consciousness; another was entirely cured by means of systematically conducted transfusion. In uremia, too, the good effect was prompt. A plentiful diuresis set in, the urine having a high specific gravity in spite of the large amount excreted. In anemia the results were always satisfactory. In one case, that of a man nearly moribund, a prompt change for the better, ending in recovery, took place.

The transfusion should be administered continuously. It is best, so long as the disease has a serious aspect, to inject subcutaneously one or two litres once or several times daily. The fluid should have a temperature of 40° C. (104° F.), and the entire quantity (1 to 2 litres) should be introduced in a brief space of time, its rapid absorption being promoted by means of massage. If a rapid effect is desired, the solution should be given intravenously. Here, however, it is well to use an isotonic solution (0.9 per cent. or 0.92 per cent.), to prevent injury to the corpuscles. [The interesting feature, in this case, is the large quantity of solution used. Where there is cardiac weakness—and this complication is not unusual in such cases—the procedure would seem not to be free from grave danger, owing to the possibility of acute dilatation of the right ventricle.]

The Absorption of Fat in the Rectum.—BAUM (*Therap. der Gegenw.*, 1902, No. 9; *Zentralbl. f. inn. Med.*, 1903, No. 6).—If iodipin (an iodized fat) is administered by the mouth, or if iodide of potash is given per rectum, iodine appears in the urine in ten to fifteen minutes. Accordingly, the appearance of iodine in the urine, after the administration by enema of an emulsion of iodipin, is a reliable index to the absorption of fat in the rectum. The test shows that this absorption hardly begins until fifteen hours after its administration. However desirable, then, the administration of fat per rectum might appear, the impossibility of its absorption into the organism makes its addition to nutrient enema entirely irrational.

The Internal Treatment of Cholelithiasis.—L. ALDOR (*Archiv. f. Verdauungskr.*, 1902, No. 6).—It is now generally recognized that a chronic inflammation of the gall-bladder, of an infectious origin, is always an etiological factor in the production of cholelithiasis. A radical cure, therefore, does not consist in the operative removal of the concretions, but in a cure of the cholecystitis. The former may well be followed by relapses, if the inflammation of the gall-bladder persists and causes the formation of fresh stones. The disappearance of the cholecystitis, on the other hand, may be followed by freedom from attacks of colic for many years or even permanently, even though stones remain in the otherwise healthy gall-bladder. The writer, therefore, is opposed to early operation in all cases of cholecystitis. He divides such cases into two classes—uncomplicated cases, in which no irreparable changes have taken place in gall-bladder or ducts; and complicated cases, in which the lesions (empyema of the gall-bladder, purulent cholangitis, peritoneal involvement, hepatic cirrhosis, etc.) are irreparable. The latter group fall within the province of the surgeon, the former within that of the practitioner of internal medicine. The writer agrees with Kehr and Naumyn in holding that the only efficient internal treatment of cholelithiasis consists in the Carlsbad cure. This cure need by no means be carried out in Carlsbad, but a carefully and correctly carried out regimen is essential to success. The usual Carlsbad cure, in which the patients drink their water while continually walking up and down, is not only improper in these cases, but is directly contraindicated. We wish to overcome a chronic or sub-acute inflammation of the gall-bladder, and for this purpose the first indication is rest. The writer puts his patients permanently to bed during the entire treatment. From 7 A. M. to noon and from 2 to 7 P. M. he orders compresses as hot as can be borne applied to the region of the gall-bladder. Every two hours the patient is given 100–200 c.c. Carlsbad Sprudel water at a temperature of 120° to 130°, so that in the course of the day he takes 700 to 1500 c.c. With the exception of highly-spiced food the patient is allowed to eat what he pleases. The treatment is continued until all tenderness to pressure has disappeared from the hepatic region, which usually requires about five weeks. He believes the effect of the Carlsbad water to consist in some anti-catarrhal activity which it is empirically known to possess, but the nature of which is not yet understood.

A New Use For Thyroid Extract.—EUGENE FULLER (*The Medical News*, 1903, No. 9).—The writer reports three cases in which the internal administration of thyroid extract cured an otherwise uncontrollable hemorrhage.

CASE 1. A fifteen-year-old Hebrew boy. Four of his mother's brothers had bled to death following circumcision performed as a religious rite. The two elder brothers of the boy had likewise bled to death following circumcision. On account of this terrible experience the father had refused to permit the rite to be performed upon this child or upon his younger brother. The boy's history was that of a typical sufferer from hemophilia, and when seen by the writer he was slowly bleeding to death from a persistent hematuria. All the usual modes of treatment proved unavailing. His pulse was 130 and very weak. He was extremely cachectic, very weak and death seemed imminent. As an experiment five grains of thyroid extract were ordered three times daily. After the second dose the bleeding ceased. During the past nine months neither the hematuria nor any other loss of blood has recurred, the patient having taken the drug continuously. He is much stronger, has a good color, is more alert mentally and has grown both in weight and height.

CASE 2. The younger brother of the preceding. He had had as yet no severe hemorrhages, but moderate bleeding followed the slightest contusion, and he had more than once suffered from the swollen joints characteristic of the hemophilic tendency. Two and a half grains of thyroid extract three times daily remedied the latter affection and for the first time in his life he has been entirely free from subcutaneous and other hemorrhages.

CASE 3. A nephritic, suffering from intractable bleeding from the prostatic sinus. An operation having proven of no avail, thyroid extract was prescribed with little or no hope of success. The beneficial effect was prompt. The bleeding ceased nearly at once and has not returned.

The writer realizes that a few cases such as the above do not suffice to establish the value of thyroid extract in cases of intractable bleeding, from whatever cause. Owing to the rarity of such cases, however, no single observer can hope to use the medicament on enough cases to establish its value. The results already obtained, however, certainly warrant its use by others in similar cases.

An Easy Method of Administering Sulphate of Quinine to Infants.—BORDE (*Gaz. hebdomadaire des Sciences med. de Bordeaux*, 1903, No. 9; *Gaz. des hopitaux*, March 3, 1903).—Quinine may be given to children too small to swallow pills or capsules, without the bitter taste appearing in the least, by treating the drug as follows: One gram of sulphate of quinine is well mixed in a mortar with eight grams of olive oil. Twenty minims of this mixture, as measured in the ordinary minim graduate, contain five centigrams of the quinine and twenty-seven minims contain one grain. The oily mixture is poured into a tablespoon nearly full of cold milk, preferably sweetened. The oil floats on the surface as a small bean-shaped mass, and the whole can now be swallowed by the infant without exciting any bitter taste. If in addition one takes the precaution of having him take a swallow of water or of any other liquid after taking the medicine, a very faintly bitter after-taste which sometimes ensues is prevented. The quinine-oil may also be given without the milk. The oily droplets roll down the tongue without spreading and give rise to a faintly bitter taste that is hardly disagreeable. Quinine may by this means be given to small children at frequent intervals without meeting with any opposition on their part. Any one who has experienced the comparative inertness of the so-called tasteless preparations of quinine will welcome the above suggestion.

The Common Basis of the Various Methods of Treating Pulmonary Phthisis.—HUGO WEBER (*Therap. Monatsch.*, 1903, No. 1).—A very brief consideration will show that the various methods of inhalation can never cure consumption. Even

if the antiseptic vapors penetrated into the alveoli themselves, they would yet be unable to reach the tubercle bacilli. The latter, even in the earliest stages of the disease, lie in the interstitial tissue of the lungs, and produce their nefarious effects there. Moreover, none of the vapors reach the lung in a concentration sufficient to affect the vitality of the tubercle bacillus, even if they could reach it.

A similar logical error, the writer believes, lies in the creosote therapy, according to Sommerbrodt. The latter had noted that small doses of creosote increased the appetite and digestive power of his patients and led to many cures. Believing that the greater the dose the greater the effect, Sommerbrodt and his followers have advocated enormous doses of creosote on the theory that in some way the creosote reached the lungs through the blood stream, and thus affected the vitality of the tubercle bacillus. The ill effects upon the digestive tract of these large doses of creosote have resulted in the production and use of large numbers of creosote compounds and derivatives, whereby the therapy of phthisis has been still further seduced from its proper path.

The good results obtained by means of the tuberculin injection, particularly during the first month and years of its use, the writer explains as follows: For obvious reasons, while the drug was still in its experimental stage, clinic patients were used—consumptives who at home often could not get enough even of the poorest food. In the hospitals, under a rich and plentiful diet, in spite of rather than because of the tuberculin injections, the patients rapidly gained in weight and strength, and were often discharged cured. In private practice among the well-to-do the results of tuberculin injections have, according to the writer, proven nearly nil.

Similarly, as regards sanatoria, the good results obtained there have in no wise been due to their location or to the hygienic and hydiatic procedures there in vogue, but solely to the proper attention paid to the feeding and digestion of the patients. The latter the writer considers the cardinal point of the treatment of phthisis. The physician who desires successfully to treat consumption must become a stomach and bowel specialist. If his patient eats heartily and digests his food well he will recover.

Another factor strongly emphasized by the author is the bactericidal property of venous blood. Hamburger has shown that venous blood has a far greater bactericidal power, especially as regards the tubercle bacillus, than arterial. This explains the good results of Bier, who successfully treated bone tuberculosis by means of artificial venous stasis, maintained for long periods of time in the affected limb. This being the case, the greater the amount of carbon dioxide in the pulmonary blood of a consumptive the better his chances of recovery. Of all foods, levulose is the one most readily split up by the body into carbon dioxide and water. It thus acts not only as an excellent food, but loads the venous blood with carbon dioxide. A still more active means of obtaining the latter results is by the subcutaneous injection of liquid paraffine, which, according to Meyer, is rapidly absorbed and burnt into carbon dioxide and water. The treatment of pulmonary phthisis may thus be put into the single phrase: "Enable your patient to eat and digest large quantities of food, especially such as is readily converted into carbon dioxide." The writer's total neglect of sunlight, fresh air and other hygienic requisites in his discussion of the subject will hardly meet with general approval.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Against Drainage.—R. OLSHAUSEN (*Zeitschr. fuer Geb. u. Gyn.*, vol. xlviii., part ii.).—This most interesting article is an emphatic assertion that drainage is a superfluous, if not dangerous, procedure in almost all gynecological operations. The writer bases his deductions upon the results obtained in 1,555 laparotomies performed by him within the last six years. Only in nine instances drainage was resorted to, including three cases in which tamponade was unavoidable on account of otherwise uncontrollable hemorrhage. His article contains numerous histories of cases to show that rupture of pus sacs during operation, the necessity of leaving behind parts of walls of cysts or fragments of tumors, injuries to the bladder or intestines, etc., etc., do not necessarily demand drainage of the peritoneal cavity. Olshausen denies, from a theoretical standpoint, the propriety of any reliance in the efficacy of a drainage tube. In his opinion the results of unaseptic operations within the abdominal cavity are largely dependent upon the dexterity of the operator. A contamination of the peritoneum by escaping pus during operation must be carefully avoided by the use of gauze packing. Special caution is to be taken in stopping all hemorrhage. Lesions of bladder or intestines, if they occur, are scrupulously closed and covered with peritoneum. He emphatically objects to flushing of the abdomen after operation. In gynecologic surgery he finds a justification for the use of drainage only in cases of perityphlitic abscesses and in suppurations situated in the parametria or the cul-de-sac, in the latter instances the drainage being established best through the vagina.

On Drainage.—M. HOFMEIER (*Centralbl. f. Gyn.*, 1903, No. 8).—The writer corrects an error made by Olshausen in quoting Hofmeier's statistics on drainage. In 866 laparotomies he used drainage in but 4.5 per cent., not, as alleged by Olshausen, in 18 per cent. of all cases. Hofmeier accepts for the main part Olshausen's conclusions, but finds ample justification for drainage in all cases in which there remain large cavities, lined by ragged and infiltrated walls that do not fold together and cannot be brought together by sutures. These conditions are often encountered after removal of a large pyosalpinx, or a hematocele firmly adherent to the intestines or the pelvic wall.

Drainage After Laparotomy.—A. SIPPEL (*Centralbl. f. Gyn.*, 1903, No. 6).—Sippel refuses to accept all of Olshausen's conclusions, arguing that a number of Olshausen's patients had died, and that the inference is permissible whether or not some of these patients could have been saved by the employment of proper drainage.

The Nature of Hydrosalpinx.—CLEMENT WHITE (*Jour. of Obstetr. and Gyn. of Brit. Emp.*, March, 1903).—That hydrosalpinx is a retention cyst most authors agree. That some cases are little more than a catarrhal salpingitis with an excessive amount of fluid retained, may be admitted. That some are due to an edematous condition in final stages of kidney diseases is also probable. That some are due to peritonitic closure of the tube, otherwise healthy, seems to be true. The writer believes, however, that it may be found that many of those cases in which the appearance of the ostium is such as is commonly described as due to "salpingitic" closure of the tube are cases of impervious ostia, due to faulty development. In the author's experience, in too large a proportion of cases to be negligible, the clinical history is not the history of a salpingitis, but

is often marked by an absence of symptoms, and the symptoms which are present are such as are found in cases of malformation, namely: sterility, pain, scanty menses, dysmenorrhea and dyspareunia.

Death of the Fetus Before the Onset of Labor, Due to Compression of the Cord.

—A. BRINDEAU (*Bullet. de la Soc. Obstetr. de Paris*; rev. *Jour. of Obstetr. and Gyn. of Brit. Emp.*, March, 1903).—Three cases are recorded in which the fetus died *in utero* before the onset of labor, death being due to compression of the cord, which was, in each case, wound several times around the neck. The author notes the following points of special interest: Severe abdominal pains before labor commenced, which he thinks may have been due to traction on the placenta during uterine contractions. In one case the fetus presented by the face, and it is possible that the cord may have been compressed between occiput and back. Death has been sudden in two of the cases, as the fetus had expelled meconium.

Does the Transverse Fundal Incision in Cesarean Section Offer Any Advantages Over the Median Incision?—F. CURSCHMANN (*Monatsschr. f. Geb. u. Gyn.*, vol. xvi., part 5).—The author subjects the one hundred and nineteen cases of transverse fundal incision after Fritsch, so far recorded in literature, to a thorough scrutiny regarding the various advantages claimed for this modification of cesarean section. The percentage of cases in which the placenta was met with in the fundus, the character of hemorrhage, the amount of difficulty in extracting the child, the mortality, the morbidity during the puerperium, the conditions found at the occasion of a repeated operation, the length of the uterine incisions and other points of interest are considered. The author draws from his studies the following conclusion: From all the different advantages claimed for the transverse fundal incision only the one can be confirmed, namely, that this incision in a greater percentage than the median incision avoids the placenta. This small gain is, however, more than counter-balanced by a number of little advantages offered in the old longitudinal median incision.

Uterine Hemorrhages in Non-Chronic Gonorrhea.—JOHANSEN (*These de Paris*; rev. *Centralbl. fuer Gyn.*, 1903, No. 8).—From a consideration of twenty cases of Professor Pozzi's clinic, the writer concludes that in dealing with such hemorrhages discrimination is to be made between acute and chronic forms of infection. Menorrhagia and metrorrhagia, with or without pain, may be encountered in an early stage of the infection. Manual examination or exploration with the uterine sound will be negative. In such cases the treatment consists in rest in bed, hot vaginal douches and very careful application of antiseptics to the cervical canal. Intra-uterine treatment is very objectionable, curettement a dangerous procedure.

Relation Between Diseases of the Bladder and Uterine Myomas.—W. HAHN (*Muenchner Med. Wochen.*, 1902, No. 40).—Uterine myomas are capable of producing various disturbances and pathologic changes in the bladder, ranging from simple encroachment upon its capacity to complete retention of urine with subsequent dilatation of the ureters and pyelitis. Even in the absence of the typical symptoms of myomas, such disturbances in the urinary system may offer an adequate indication for operation.

(In the number of November, 1901, of this *Journal* (page 548) I had occasion to review a report of Mailland on a sudden rupture of the bladder, due to continued pressure exerted by a fibroma of the uterus.—EDITOR.)

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

External Oesophagotomy for the Removal of Foreign Bodies From the Oesophagus in Children.—GROSS (*Rev. Mens. des Mal. de l'Enf.*, February, 1903) has collected fifty-seven operative cases from the literature, ten of which resulted fatally. He contributes a careful study of the operation and its technique (which does not lend itself to abstract). His general conclusions follow:

1. The operation is one of urgency in childhood as in adult life; its gravity depends upon the seat and character of the foreign body, as well as upon the length of time it has been impacted in the gullet.

2. The indications for operation (now more extended than formerly) depend primarily upon the information given by radioscopic examination, which should be made systematically in every case.

3. The position, form and nature of the foreign body being known, the surgeon decides whether the operation should be done at once, or whether tentative attempts at removal per vias naturales should be made. If the latter are not immediately successful, however, the operation should be performed at once, as temporization or renewal of the attempts are most apt to lead to serious accidents.

4. The technique of the operation does not offer special peculiarities in the child, except that owing to the smallness of the field the operation is rendered more difficult.

5. The principal indication of the after-treatment is to secure sufficient and ample nourishment to the child.

Causes of Death in Diphtheria.—KOHN (*Pediatrics*, February, 1903) says that death in diphtheria is due to (1) mechanical causes, (2) the action of the toxin on the system, (3) one of the complications.

Of the mechanical causes, asphyxia is the most important and results from closure of the glottis. When it occurs early, spasm of the hypersensitive laryngeal muscles may be the cause of the stenosis. Later on the effects of swelling and exudate become more marked, until in the last period the stenosis is due altogether to false membrane and oedema, spasm now playing no role.

The toxæmic form of death is due to an intoxication of the system and consequent depression of all bodily tissues by the toxalbumins elaborated by the bacillus. Death may thus occur at the height of the local process.

Frequently in diphtheria a mixed infection is present, and in these cases death may be due to streptococcus septicaemia. It is just in these cases that complications are apt to arise.

Of these, bronchopneumonia is the one most to be dreaded. It is most often but not always found in cases with laryngeal involvement. Various germs may act as the exciting cause, the one most frequently present being the streptococcus. Bronchopneumonia may supervene at any stage, even during convalescence.

Diphtheritic nephritis usually runs a favorable course, but in septic diphtheria may be the cause of death.

Heart failure is a common cause of death. Cardiac complications may occur at any stage in any kind of diphtheria. The symptoms may develop insidiously, or death from heart failure may occur without premonitory warning. The cause of heart failure is not the same in all cases. Cardiac thrombi occur often; more often death is due to myocardial degeneration. All varieties of change from simple fatty to complete hyaline degeneration of the muscle are found. In some

cases cardiac paralysis is due to the status lymphaticus, hypoplasia of heart and aorta, with hyperplasia of thymus, spleen and lymphoid tissues.

Changes in the nervous system, leading to cardiac or respiratory paralysis, may cause death.

The combination of diphtheria with other infectious diseases, measles, scarlet or typhoid, explains the fatal issue of some cases.

Leucocytosis in Measles and German Measles.—PLANTENGA (*Arch. de Med. des Enf.*, March, 1903) has investigated the blood conditions in these two affections. His cases were taken from private practice. Systematic blood counts were made of all the children in families where only one had sickened. Many of the other children later developed one of the infections, and the author was thus enabled to study the blood state before, during and after the development of the exanthemata. The white cells only were counted. The Thoma-Zeiss counter was used, but a special diluting fluid was used.

R	Solution osmic acid, 1 per cent.,	
	Solution chromic acid, 1 per cent.	aa 10.0
	Glacial acetic acid	1.0

This fluid allowed a differentiation (without staining) between the polymorphonuclear neutrophiles and the lymphocytes.

In all, twenty-nine cases of measles and nine cases of roetheln were examined.

These examinations led to the following conclusions:

In measles during the period of incubation there was a distinct and constant leucocytosis, running up to twenty thousand whites, the polymorphonuclears averaging 75 per cent. of these. During the period of exanthem the leucocytosis was succeeded by a marked diminution in the total number of whites (leucopæmia). At this time there is a relative increase in the number of lymphocytes corresponding to the acute adenopathy.

After the exanthem had faded, the number of whites returned to the normal, except in the cases with complication.

The same series of blood changes was found in roetheln which appears to the author, thus affording testimony as to the identity of these two affections. [A view that is certainly not held by the majority of writers today.—ED.]

In view of the fact that these blood changes occur during the period of incubation, and, therefore, before signs have presented themselves, the author believes that the blood examination may be of great value in early diagnosis, and, therefore, prophylactically.

The blood examination may also be of value in the differentiation of measles and scarlet, or of measles and other morbilliform eruptions.

The author advances as a hypothesis, that measles and roetheln are due to different degrees of virulence of the same germ, possibly having different ports of entry in the two affections.

Cyclic Vomiting in Children.—ELY (*Jour. Amer. Med. Ass'n*, March 28, 1903) says that this affection is a neurosis occurring in gouty or neurotic children, due to toxins from faulty metabolism and faulty kidney elimination. The attacks show a tendency to periodicity, and have no connection with dietary errors or indigestion.

The vomiting is severe and protracted, prostration is extreme, and there is fever of an indefinite type. The urine is loaded with amorphous urates and uric acid crystals. Absence of abdominal symptoms and of disturbances of the stools serve to differentiate the condition from ordinary bilious vomiting. Vomiting due to organic disease of stomach, brain (and meninges) or kidneys is to be differentiated from this condition by the concomitant symptoms.

The treatment is sedative and eliminative. As sedatives, hypodermic injections of morphia and atropine hold the first place. In milder cases the internal administration of cocaine and Fowler's solution may be of benefit.

Elimination is best accomplished by the use of calomel, in conjunction with high saline enemata.

Very little food should be given by mouth, and this preferably by means of the stomach tube.

In the interim between attacks attention must be directed to the treatment of the underlying cause.

The Use of Sterilized Linens in the Treatment of Cutaneous Infections of Nurslings.—WEILL and AGNEL (*Rev. Mens. des Mal. de l'Enf.*, March, 1903), in the effort to prevent spread of skin infections among the nurslings in hospital, have resorted to the use of sterilized bed linen and clothing. Various other measures, such as washings with various antiseptics, use of dusting powders, precautions taken by attendants to keep their own hands clean, had not been efficacious. The bed linens and the clothes are brought to the bed sterilized in packages, applied by nurses with surgically clean hands. Full details of the method (which does not appear to be very time-consuming) are given.

The authors report the following results (the system having been tried for nine months):

(1) Infection of the healthy skin is prevented. Until recently head infections were common, because the head had not been protected. Since the introduction of sterilized bonnets the infections have ceased.

(2). Cachectic ulcerations, occurring in the course of athrepsia, or in the cachexia of prolonged gastro-intestinal infection, have been markedly diminished in intensity. There have been no erysipelatous or lymphatic inflammations, which were so frequently the case formerly.

Skin lesions existing at the time of entry to the hospital have been very favorably influenced in the course and their treatment has been more satisfactory.

The authors believe that the method is one which yields excellent results, without being very difficult of application.

Vaccination During Whooping-Cough.—POCHON (*Rev. Mens. des Mal. de l'Enf.*, March, 1903) reports a case of severe whooping-cough which resisted absolutely all the usual forms of treatment. The patient was a child of five months, and the exhaustion became so severe finally that hypodermic stimulation became necessary. At this time, in the third week of the disease, the child was vaccinated. Within five days the vaccination proved successful, and the paroxysms diminished remarkably both in number and intensity.

Improvement continued, but a complete recovery did not ensue for several weeks.

The author refers to twelve cases of pertussis vaccinated by Dietrich at the height of the disease. Three were promptly cured, seven cases showed marked amelioration, the other two showed no improvement.

[No explanation as to the action of the vaccination is offered.—ED.]

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Thoughts on the Neurone Theory.—HAENEL (*Berl. Klin. Wochenschr.*, Nos. 8 and 9, 1903).—This discussion of the neurone theory presents a very good analysis of some of the recent work on the nerve cell, including an account of Bethe's, Held's, and Nissl's investigations, and also mentions the experiments of Munzer and Bethe on the autogenetic regeneration of nerves. For these reasons the conclusions of the author are worthy of some attention. They are as follows: The neurone theory as it was first advanced in the way of a cellular unity of the nervous system can no longer be held to be true. The individual neurones can no longer be regarded as anatomically sharply separated from one another, but they must now be considered as bound together by the primitive fibrillæ. In place of the former conception of an anatomic cellular unity, the unity of an organic physiological kind better fulfills the modern conception of physiology and embryology. It likewise as easily as the other conception explains the pathological facts which were formerly regarded as such definite proofs of the correctness of the neurone theory as it was at first conceived. In other words, in the place of an anatomic unity, a unity based upon function is substituted. To such units the author proposes to apply the term Ergon. This term will mean the morphological element of the nervous system. Perhaps this conception will lead to the long desired result which so much of the controversy in regard to the question has had for its purpose, namely, to develop the neurone theory out of the rigid framework which before enclosed it.

A Report of an Epidemic of Acute Anterior Poliomyelitis.—WOODS (*Occidental Med. Times*, March, 1903).—A brief account of an epidemic of this disease, which took place in San Francisco in 1901 and 1902. The cases were especially prevalent during May and June. Brief clinical histories are noted of twenty-five cases. Most of them are under three years of age. There were nineteen males and six females. The mode of onset was nearly the same in all cases and the distribution of the paralysis was usually limited to the lower extremities. The tibialis anticus showed itself especially vulnerable to the disease.

On the Lip Reflex (Mouth Phenomenon) of Newborn Children.—O. N. THOMSON (*Rev. of Neurol. and Psychiatry*, Vol. i, No. 3).—The author noted, while studying the question of facial irritability in infancy, a reflex which has received but little attention. This reflex is best elicited by a series of gentle taps on the upper lip, a little above the angle of the mouth, or on the lower lip a little below it. On so tapping there is first of all a slight momentary jerk. The lips close, become deliberately pursed together, so as to pout a little. As the tapping is repeated, the protrusion of the mouth becomes more and more marked. This reflex seems to occur in all healthy newborn babes, when they are sound asleep. It is not as a rule present when the baby is awake. After the third or fourth year it is uncommon.

A Contribution to the Clinical Importance and Pathogenesis of the Babinski Reflex.—W. SPECHT (*Monatschr. fuer Psychiatrie u. Neurolog.*, No. 2, 1903).—This paper is an important contribution to the ever-growing mass of work on this subject. The reflex known under his name was first published by Babinski when he summarized his experiments as follows:

(1) Plantar stimulation always causes in normal individuals a flexion and never an extension of the toes. (2) In cases of disturbance of the pyramidal system, an extension of the toes, especially of the big toe, results when the plantar surface of the foot is stimulated. The material upon which the present paper is based consists of 430 cases, 359 of which were individuals with an organically sound nervous system. In seventeen of these cases the pyramidal tract was affected, and in twenty-two there was a probable affection of this tract. Thirty infants were included in this series, a case of epileptic coma and of hysterical paralysis also. In every one of the seventeen cases the Babinski reflex was present in its typical form. The conclusion derived from a study of this material is as follows: The Babinski phenomenon in organic disease of the nervous system can be regarded as a certain evidence of degeneration in the pyramidal tract. In such cases in which an organic disease does not exist, it can be regarded as the expression of a functional disturbance of this tract.

Treatment of Epilepsy According to the Method of Toulouse-Richet.—HALMI and BAGARUS (*Psychiatrisch-Neurolog. Wochenschrift*, No. 48, 1903).—This is a further contribution to the therapy of epilepsy according to the most recent methods. The reports have so far been in the main favorable. The conclusions reached in this paper are just the reverse and for that reason deserve mention. The method, as is well known, consists in the withdrawal of NaCl from the food of the patient and replacing this by sodium bromide or other bromide salts. In this way much larger doses can be given without any bad results. In order to judge of the efficacy of any treatment of epilepsy, the authors have formulated the following principles: (1) If epileptics with a large number of attacks and a large proportion of the cases themselves can be cured; (2) If the improvement is due to the treatment and is independent of spontaneous remission, and if it is not due to other indirect sources of therapy; (3) If the results of the therapy are lasting and have existed for a longer period of time than improvement obtained by any methods previously tried. Fifteen patients were treated in this way, nine with more than twelve and six with three to six attacks monthly. The conclusion is as follows: The Toulouse-Richet method of treating epilepsy neither cures nor improves the patient. Although the withdrawal of chlorides from the food causes a more prompt action of the bromides and a stronger effect from them, yet the stronger effect of the drug leads to a greater likelihood of bromide poisoning. Thus the method should not only not be recommended, but it is distinctly to be regarded as dangerous.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Critical Review Upon the Laws of the Formation of the Sexes.—GUIARD (*Ann. des Mal. des Org. Genito-Urin.*, January 15, 1903).—The study of the laws which preside over the formation of the sexes is naturally an interesting one, and the question is still far from solved, principally because of the almost insurmountable difficulties surrounding it. However, there is one hypothesis which has appealed to the author as extremely logical and seductive, and for the last fifteen years he has applied it and has observed its results in thirty-five cases. While he does not regard his report as conclusive, but recognizes that the observations of a single person, because of the nature of the question, is of not much importance, yet he hopes to be able to reach some serviceable deduction by a compilation

of the experiences of many of his confreres, who may read this article and be tempted to experiment with this theory.

Before proceeding to speak of his personal opinions, he briefly recalls the principal theories that have had public favor: That the right or left testicle, or ovary, may each beget exclusively either male or female, or that the position of the woman during intercourse determines sex, have been clearly disproved by facts, since it has been noted that a man with one testicle, or a woman with one ovary, may beget both male and female. The hypothesis that the ovules corresponding to successive menstrual periods are alternately of one or the other sex has not been sanctioned by clinical observation. In considering the theory that the relative vigor of one or the other parent exercises a predominating action, that a man in full vigor and a debilitated woman will beget a son, while a daughter will be born to a woman in full health and a delicate man, we are met with a diversity of conclusions from various observers.

Schenck's theory is somewhat analogous to the last. For him, indeed, it was the super-alimentation of the mother which played the preponderating role in determinating the masculine sex. This theory has been thoroughly discredited by Virchow and the Vienna faculty of medicine.

In extrauterine pregnancies, where the conditions of nutrition of the fetus are much more favorable than in normal pregnancies, Rouber has found that in twenty cases the males and females were evenly divided. Thus the author rather concludes that the sex is already determined in the ovule itself, or at the latest, when it is fecundated. In order to determine what part the difference between the age of the parents played, Girou divided three hundred ewes into two parts, one part was well nourished and served by two young rams, the other was feebly nourished and served by two old rams. In the first lot there were sixty females, in the second forty, a difference not sufficiently great to draw conclusions from. The following are some other theories for the determining of sex, which appear more or less inconsistent upon the face of them: persistent sexual inequality between two cohabitators, public or private prosperity, sojourn in town or country, climate, season, consanguinity of parents, legitimacy or illegitimacy of the child, intervals more or less long between the successive pregnancies, heredity, the penetration of more or less numbers of spermatozoids into the ovule.

As physiologic functions of the least importance obey laws marvelously precise, it seems rational to conclude that this most important one obeys a law and is not left to chance, so that, sooner or later, methodic observation or theoretical study, should lead to the solution of this question. The most satisfactory theory, perhaps, is the hypothesis of Professor Thury. It is upon the maturity, more or less perfect, to which the ovule has arrived at the moment of fecundation that depends the sex; it will be feminine when this maturity has not reached a certain degree, masculine when it has passed it. After considering the various theories of ovulation, menstruation, and fecundation, and arriving at the conclusion that fecundation may occur at any time, because of the longevity of life of the spermatozoid, that the ovule is ready for fecundation at the beginning of menstruation, and that, therefore, to beget a female, intercourse should be three or four days before the menstruation, whereas, to beget a male, the intercourse should be three or four days after the cessation of menstruation. After quoting the various experimental researches upon animals, and observations upon woman, the author then proceeds to give the results of his observations of the law of Thury in thirty-five cases, in which four only seem to be opposed to this law. In all four failures, however, the conditions of Thury were not carried out. The author next considers this law in relation with anomalies of ovulation; such as ovulation without menstruation, menstruation without ovulation, fecundation of supernumerary ovules. Finally the procreation of one or the other sex obeys some law which it is of import to determine, and among

the most innumerable theories, that of Thury is the most rational. The migration of the ovule corresponds to the menstrual flow. If then fecundation takes place before the menses it will engender a daughter, if afterwards, a son.

Enteritis and Bacteriuria.—JANET (*Ann. des Mal. des Org. Genito-Urin.*, February 1, 1903).—It is necessary in the first place to distinguish two kinds of bacteriuria; namely, those of external and internal causes. That of an external cause is the most common and is usually due to the colon bacillus, or to different bacilli or cocci which yield ordinarily to the various internal and local means employed for their eradication.

A bacteriuria of internal origin differs altogether from the proceeding, especially because of the difficulty we experience in finding the primary cause and of its rebellious character to all medication. In this class of cases it is necessary to appreciate the source of the evil and to attack it there. There are two ways by means of which internal infection may occur; first, by direct contact or the immediate proximity of a normal organ to a pathologic one; and secondly, through the mediation of the general circulation.

The diagnosis of the participation of the upper urinary apparatus in bacterial infection is most often quite difficult, because the kidney and ureters present no appreciable modification to palpation, and the cystoscopic examination gives no indication, because the bacterial urine is not sufficiently clouded to be distinguished. There remains, however, one procedure of precision, that is, catheterism of both ureters. Unfortunately this procedure is very dangerous; for, in spite of all the care that we can take to disinfect the bladder, we cannot do it, and a healthy ureter will be thus exposed to contamination. In order to avoid this danger the author proposes the following method for diagnosis:

To inoculate a culture tube with a given quantity of the urine drawn off by a catheter, then thoroughly to wash the bladder with sterile water to rid it of what bacteria may remain loose in it. After waiting fifteen minutes to reintroduce the catheter and inoculate another culture tube with the same quantity of the urine which comes down from the ureters. If the upper urinary tract is involved there will be only a slight difference between the cultures in the tubes. If, however, the upper urinary tract is free from involvement the growth upon the two tubes will differ greatly.

We know that the bacteria from certain grave infectious diseases are eliminated through the urine, and it is equally admissible that the bacteria from infections of lesser importance and more localized are eliminated through the urine also. Among the internal causes of bacteriuria the author has noted that enterocolitis is frequently accompanied by bacteriuria, it being always the colon bacillus. Indeed, he quotes several cases in which all measures addressed to the bladder failed to relieve the bacteriuria, but, having placed the patient upon a milk diet and remedies addressed to the enterocolitis for three weeks, the urine rapidly responded then to the remedies addressed to it. His best results followed nitrate of silver washes and the administration of urotropine in a dose from one and one-half to two and one-half grammes, together with the internal administration of benzoate of soda to acidify the urine.

Contribution to the Study of the Surgical Treatment of Bubo.—SCADUTZ (*Ann. des Mal. des Org. Genito-Urin.*, February 15, 1903).—Three kinds of suppurating buboes are distinguished: those in which the pus is limited to the gland, those in which the pus is peri-glandular, and those in which both conditions are present. The resistant cases belong to the last class. While incision and extirpation usually suffice, yet there are cases which require three months or more for a cure. The author proposes, in the cases requiring operation, to make an incision parallel with the fold of the groin, to extend over the entire length of the

swelling, with the index finger to enucleate the glands, then to stuff the cavity remaining with iodoformed gauze, which is to be removed and replaced every twenty-four hours after having washed the wound abundantly with sterilized water. After a week, when good granulations have sprung up, the wound is freshened and sutured. This method gives a quick cure with little cicatricial deformity.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Present Status of the X-Ray Treatment of Malignant Tumors.—W. B. COLEY (*Medical Record*, March 21).—After a general discussion of his own cases and the results of other observers, Coley draws the following conclusions: The results thus far obtained give abundant evidence that the x-ray has an inhibiting action on all forms of malignant tumors. Yet the number of cases is insufficient to enable us to state what particular varieties are most susceptible to its influence. So far it would seem that primary sarcoma of the lymph glands yield most readily. Superficial epithelioma might be placed in the same category. Several cases of carcinoma of the breast have been observed in which the growth has entirely disappeared after prolonged exposures. Yet all these cases have been too recent to be classed as cured. In fact, sufficient time has not yet elapsed in a single case to justify us as regarding it as cured. While this should, on the one hand, prevent us from reporting patients as cured in whom tumors have merely disappeared under treatment, it should not, on the other hand, lead us to minimize the importance of these immediate results, even though they may be no more than prolongation of life or an alleviation of suffering. One cannot witness the marvelous melting away or disappearance of an undoubtedly malignant tumor in a few weeks or months without feeling that we have a new and powerful addition to our hitherto scanty means of attacking this disease. The knowledge of this new agent is so slight that there is added hope in our very ignorance. For, by deeper insight into its nature, gained by further experience, we may hope to better utilize its power and thus accomplish greater results. The x-ray is not advisable in primary operable cancer.

Treatment of Cutaneous Epithelioma by Iodine.—M. SALMON (*Annales de Dermatolog. et de Syphiligraph*, January, 1903).—On account of the affinity of the epithelial cells for iodine, painting the epitheliomatous surface with iodine solutions suggested itself to the author. He recommends it in preference to the Cerny-Trunneek method. The tincture is used and is painted twice a week over the diseased surface, first washing it with ether. It is not as painful as the arsenic solution of Cerny-Trunneek, and has not the unpleasant secondary suppuration from infection.

Note on a Case of Black Tongue (Langue Villeuse).—MM. EMORY, GASTON and NICOLAS (*Annales de Dermatol. et de Syphiligraphie*, February, 1903).—The characteristic features of the disease which the patient presented consists in the prolongations of the filaments upon the surface of the tongue and in the typical coloration of the organ. The filaments are prolongations of the papilla of the tongue, with a keratinization of the epidermis and adherence of the cells. The etiology of this peculiar affliction is most obscure. The reporters found nothing but normal organisms that inhabit the mouth, especially great numbers of leptothrix. Although many microbes are described as causing black tongue, the au-

thors believe it to be a disease primarily due to a stagnation of the mucous membrane caused by digestive troubles, as the majority of cases present some trouble of this character. M. Darier said in the discussion of the case that he thought from his own researches that the disease was a parasitic one, and that the black color was not due to a parasite, but a certain form of ichthyosis.

M. Gaucher said inoculations of leptothrix failed to produce the disease.

M. Barthelemy believes the disease to be parasitic and slightly contagious.

Etiology of Acne Vulgaris.—T. CASPAR GILCHRIST, M. L. C. S., L. S. A. (*Journal of Cutaneous Diseases*, March, 1903).—Typical cases of acne vulgaris were taken in these experiments and only the nodular formations (acne indurata) without the whitish or yellowish apices of secondary streptococci infection were chosen. Acid glycerine agar was the medium used.

Cultures were taken from one hundred and forty-five lesions from thirty-one cases; fifty-two yielded pure cultures of the bacilli acne; twenty-eight were sterile; fifteen showed cultures of bacillus acnes and a few staphylococcus albus; twenty-nine cultures of bacillus acnes and numerous colonies of staphylococcus albus; twenty-one pure cultures of staphylococcus albus. In girls the cultures were more apt to be pure than in young men. Smears from all lesions showed bacillus acnes with Gram's stain. This bacillus is pathogenic in mice and guinea-pigs. In the smears it is present as a short thick bacillus, but in cultures it often becomes much larger and thicker, and in old cultures assumes branching forms. Upon acid glycerine agar it grows and forms a pulsatious, easily movable mass. These organisms give a clumping reaction with the sera of patients affected with acne vulgaris, and it is to be inferred that a specific toxic body derived from the presence of the bacilli in the tissues is absorbed by the blood, resulting in the production of a specific agglutinin.

Sections of acne lesions show the bacilli in the tissues and in giant cells. The author believes that it is definitely proved that these bacilli are the specific cause of acne vulgaris. Whether or not it is taking a wrong view to consider the anemia, constipation, headaches, coated tongue, etc., as predisposing causes of acne or the result of the acne bacillus toxine. The disease in this way can be compared to erysipelas.

The author does not deny that age, diet, etc., may not be predisposing causes. He considers acne from the possible systematic effects of the organism a disease to be treated with respect, as profound alteration in the health may occur.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

The Degenerate Tonsil.—PYNCHON (*Journ. A. M. A.*, March 21, 1903) discusses the "degenerate tonsil," and employs this term to designate all of the ordinary or commonly met chronic conditions of tonsillar disease.

The author states that when the tonsils are not removed they become submerged—that is, they apparently become smaller, while in reality they have changed but little, and are hidden from view by the faucial pillars between which they are imbedded. During this process of submersion there is a gradual absorption of the lymphoid element and a hypertrophy of the follicular element of the tonsil. This progress of evolution, which may progress for many years, is constantly accompanied by and produced through a low grade of chronic in-

flammation, generally manifested by the discharge of a cheesy secretion from the crypts which is continuously taking place, and which, when most noticeable, is known as a chronic lacunar tonsillitis.

Yearsley and a number of other writers are quoted, and all concur in the opinion that the diseased tonsil is the nidus for the growth and distribution of pathogenic organisms.

The thorough eradication of the diseased tonsil is recommended, owing to the danger of systemic infection occurring through the lymphatics, and that the retained secretions may give rise to grave phlegmonous anginas.

The author says that no tonsillotome yet invented is efficient in completely removing the tonsil, particularly the "degenerate tonsil," and recommends the electro-cautery or the dissecting instrument, which he maintains has the following advantages: (1) A practically bloodless field, so all of the diseased tonsillar tissue can be removed; (2) owing to the lack of hemorrhage, no loss of the local anesthetic; (3) by the cauterization a destruction thereof, should any portion of the follicular element escape the line of dissection.

The Presence of Diphtheria Bacilli in Atrophic Rhinitis.—SMYES (*British Med. Jour.*, February 28, 1903) gives the results of his investigations on this subject. He describes a "diphtheria-like" bacillus which is peculiar to atrophic rhinitis. This bacillus is found constantly in atrophic rhinitis, and its cultural characteristics are those of the diphtheria bacillus, and the organisms are pathogenic to guinea-pigs, producing the same lesions as the Klebs-Loeffler bacillus. If their identity can be established, atrophic rhinitis can be regarded as a chronic nasal diphtheria. The following facts support the theory:

First.—In diphtheria the accessory sinuses are constantly infected.

Second.—Chronic suppurations in the sinuses are, in the opinion of many rhinologists, the direct exciting cause of ozena or atrophic rhinitis.

Third.—Multiple cases of atrophic rhinitis in the same household occur from time to time, as one would expect if the process were a true infection.

Fourth.—An attack of diphtheria may be the starting point of atrophic rhinitis.

Fifth.—Atrophic rhinitis, like diphtheria, attacks females more than males; it is a disease of early life, and induces a pronounced anemia and leucocytosis.

Sixth.—Atrophic rhinitis has been successfully treated by diphtheria antitoxin.

Seventh.—In atrophic rhinitis the type of diphtheria bacillus does not alter during the progress of the case, a fact which has recently been found to hold true in acute faucial or nasal diphtheria.

Report of Twenty Cases of Laryngeal Tuberculosis and Two Cases of Epithelioma of the Tongue and Lip Treated with the X-Rays.—BLEYER (*Southern Clinic*, February, 1903) has treated twenty cases of laryngeal tuberculosis with the x-rays with the best results in all the cases but two, and these were in such advanced states that no result could have been expected. The other cases all made rapid recoveries in from seven to ten weeks.

The treatment consisted of the application of the x-rays in combination with general treatment, that is, curettage, application of lactic acid and the daily intra-laryngeal and tracheal injections of menthol or eucalyptol in alboline. The time occupied for each sitting or treatment was from fifteen to thirty minutes daily. The rays are applied by means of a shield mask made of lead fitted over the area of the external part of the throat. An opening is cut in the lead shield sufficiently large to allow the rays to pass directly over the seat of the disease. The part to be x-rayed must receive a thorough antiseptic consideration before and after each application of the x-rays, and it must also be covered with gauze and waxed paper to avoid the so-called x-ray burn.

The author finds that the x-ray has a specific action for the tubercular infiltration and its surrounding tissues. The other remedies simply aid in the progress and rehabilitation of the tissues to a more normal state.

The Tampon Treatment of Otitis Externa Furunculosa.—SACK (*Monatsschrift fuer Ohrenheilkunde*, No. 1, 1903) highly recommends the tampon treatment of otitis externa, and claims that the failures of others are due to not applying the tampon properly. The author first cleans the canal by gentle syringing, then carefully dries the same. He then packs the canal with a tampon of cotton which has been soaked in a 10 per cent. solution of carbolic acid in glycerin. This tampon must be so applied that it exerts a certain amount of pressure, which, however, must not be too great, or the patient may return the next morning, after having passed a sleepless night, with an edema of the corresponding side of the face. If the tampon has been properly applied the pain soon subsides, and if renewed daily the process will disappear in from three to four days. When an abscess is present, it must be opened. After the incision is made, the tampon should be applied and renewed every twenty-four hours.

In some obstinate cases the author found it necessary to apply leeches and hot applications, while in others the ice bag proved of value. The writer has used this form of treatment for more than ten years in his clinical as well as private practice with the best results.

The Cystoscopic Examination of the Nasopharynx or Salpingoscopy.—VALENTIN (*Archiv fuer Laryngologie und Rhinologie*, Band 13, Heft 3).—The author has had a small cystoscope constructed with which he can inspect the nasopharynx, and obtains a much better view than with the ordinary method of examination.

The "salpingoscope" contains a four-volt lamp, which gives a good illumination and very little heat. Three dry cells, with or without a rheostat, furnish the necessary electric current. The author has been able to use it in the same way that one would an ordinary Eustachian catheter, and has used it in children as young as seven years of age.

A larger size of the instrument was also used in making examinations of the larynx.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Treatment of Recent Total Staphyloma of the Cornea by Extraction of the Lens.—E. CONSTANTINESCO (*La Clinique Ophthalm.*, February 10, 1903).—The writer calls attention to the fact that ocular hypertension giving rise to the formation of corneal ectasia is due to the forward displacement of the lens, thus stretching the zonule of Zinn and irritating the ciliary region. Extraction of the lens was successfully practiced by v. Graefe, but he limited the method to cases of partial staphyloma, abscising the protuberant cicatricial mass when the ectasia was complete.

According to Constantinesco, extraction is applicable also to cases of total staphyloma, provided the latter is of recent development. The newly formed cicatricial tissue is capable of noteworthy contraction after the support offered by the intraocular pressure is removed by incision into the anterior chamber. The contractile power of the tissue is very evident twenty-four hours after the opera-

tion, when the corneal wound will be found to gape widely and the bulging will have largely disappeared. The outcome in the five cases reported was eminently satisfactory. Conclusions in part are as follows: (1) Extraction results in permanently lowering the intraocular pressure which is responsible for the staphylomatous process; (2) the staphyloma does not recur; (3) should secondary glaucoma ensue, an iridectomy may be performed; (4) the procedure is conservative, inasmuch as the dimensions, form and movements of the eye are but little altered.

Congenital Defect of Abduction Associated With Retraction of the Eyeball in Adduction.—J. J. EVANS (*Ophthalm. Review*, January, 1903).—The condition is congenital and in most cases is confined to one eye. The affected eye may be enophthalmic; in the primary position its axis is usually parallel with that of the fellow eye. "Attempted conjugate movement towards the unaffected side is associated with imperfect rotation inwards of the faulty eye, its retraction into the orbit and narrowing of the palpebral fissure, and sometimes an upward or downward rotation of the globe. On the contrary, when the patient attempts to turn the eyes towards the affected side the defective eye comes forward and widens the palpebral aperture to an extent equal to that of the normal side, but fails to move outwards beyond the vertical mesial plane of the orbit." In attempted convergence "the healthy eye rotates inwards, but its fellow assumes the primary position, and at the same time comes forward and widens the palpebral aperture;" under these circumstances the pupils do not contract. In some cases rotation inward, in others rotation outward, cannot be effected even by forcible traction with conjunctival forceps. Vision of the affected eye is usually below normal. Diplopia may be present or absent. The anomaly is more common in females and on the left side.

Two theories have been advanced to explain cases of this kind. "According to the *faulty insertion theory*, the retracting muscle, which is the internal rectus, is attached to the eyeball farther back than normal. Consequently the portion of muscle capable of unwinding itself from the globe is diminished and inward rotation is correspondingly replaced by a backward pull on the globe when the internal rectus contracts." According to the *fixation theory* it is assumed that the muscle fibers of the external rectus are replaced by an unyielding connective tissue strand. "This fixes the eyeball on its outer side and offers an obstacle to adduction, so that the eye can yield to the traction of the internal rectus only by moving back into the orbit at the same time that it turns inwards." Evans believes that the condition is best explained "by a theory of faulty insertion of the internal and external recti" with "a maldevelopment of the latter and diminished elasticity of the former."

A tabulated analysis of the cases hitherto published is appended.

An Astigmatism Cured by Operation.—G. J. BULL (*N. Y. Med. Jour.*, February 7, 1903).—Bull's patient had an inverse myopic astigmatism of 1.75 D. in the right eye, and a compound myopic astigmatism in the left eye. Vision with either eye without correction was $\frac{6}{18}$. The ophthalmometer showed that the astigmatism of the left eye was largely a curvature ametropia. Division of the left external rectus was performed to relieve an exophoria of 6 degrees. Three days later the ophthalmometer showed that the corneal astigmatism of the left eye had disappeared and vision without correction had risen to $\frac{6}{6}$.

The effect produced in this case suggests that the tension of the external muscles has an important bearing upon intraocular tension. An interesting fact, in this connection, is that inverse astigmatism, often progressive, is singularly common in glaucoma.

A New Ocular Muscle (Musculus Papillæ Optici).—C. NICOLAI (*Ann. d'oculist.*, November, 1902).—Nicolai has discovered a band of fibers encircling the head of the optic nerve which, judging from the form of the individual cells and their tinctorial reaction to v. Gieson's stain, is thought to be a band of smooth muscle fibers. Circular, longitudinal and radial fibers are recognized. The circular portion is situated at the narrowest part of the optic nerve, in the prolongation of the basal membrane of the choroid and the pigment layer of the retina. The longitudinal portion forms a collar surrounding the optic nerve, connecting the outer part of the latter with the choroid. The radial portion of the muscle shows the greatest development; it extends from the cribiform plate to the bifurcation of the central artery. The writer has found similar fibers in the monkey, cat, pig, camel, etc. He refuses to hazard a guess as to its possible function.

Case of Glioma of the Retina Simulating Hypopyon.—W. H. JESSOP (*Ophthalm. Review*, January, 1903).—Jessop's patient was a little boy, aged four years, who complained of pain in the right eye. The cornea presented a small linear ulcer and was generally steamy. The anterior chamber was shallow and contained a little "milky-white" fluid which changed with the position of the child's head. The iris was "muddy looking," but there were no posterior synechiæ. The lens was apparently opaque. T. n. V. p. 1.

Paracentesis of the anterior chamber yielded a yellowish white fluid which proved sterile. The "hypopyon" reformed, disappeared and again reformed. Finally tension rising to +2 with severe pain the eye was enucleated. Examination showed a glioma and the orbit was exenterated. The patient died three months later with symptoms of intracranial pressure.

Microscopical examination showed that the apparent hypopyon was in reality due to masses of tumor cells probably derived from the base of the iris. The case is thought to be unique.

BOOK REVIEWS.

ATLAS AND EPITOME OF THE MOUTH, PHARYNX AND NOSE. By DR. L. GRUNWALD, of Munich. From the second revised and enlarged German edition. Edited, with additions, by JAMES E. NEWCOMB, M. D., Instructor in Laryngology, Cornell University Medical School, Attending Laryngologist to the Roosevelt Hospital, Out-Patient Department. With 102 illustrations on 42 colored lithographic plates, 41 text cuts and 219 pages of text. Philadelphia and London: W. B. Saunders & Co. 1903. Cloth, \$3.00 net.

The first edition of Dr. Grunwald's atlas received a very warm welcome, and is well known to all those interested in this special branch. This, the second, edition bids fair to be received with even greater enthusiasm. The plates, which represent typical cases and not rare types of disease, are all exceedingly well executed, the majority having been painted by the author himself from nature. The descriptive part of the work is eminently practical, and in many instances almost equals a clinical demonstration.

AN EPITOME OF PHYSIOLOGY FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By THEODORE C. GUENTHER, M. D., and AUGUSTUS E. GUENTHER, B. S. 12mo, 250 pages, with 57 engravings. Lea Brothers & Co., Philadelphia and New York. 1903.

The above is a good example of the medical epitomes that are rapidly replacing the old quiz compends. While evidently written for the purpose of rapid reading and of enabling the student hastily to prepare himself for examination, the list of examination questions at the end of each chapter being a potent aid to his memory, the book nevertheless consists not merely of a mass of undigested facts, but of an adequate, if condensed, presentation of physiology from a modern point of view. That the progress, in this science, of the past few years finds little or no place in this volume was to be expected. If we must have quiz-compend— and the necessity does not seem clear— epitomes like the above are to be welcomed.

CUSHNY'S PHARMACOLOGY AND THERAPEUTICS. A text-book of Pharmacology and Therapeutics; or, the Action of Drugs in Health and Disease. By ARTHUR R. CUSHNY, A. M., M. D. Third edition, 8vo, 750 pages, with 52 engravings. Lea Brothers & Co., Philadelphia and New York. 1903.

This volume can be unreservedly commended both to the student and to the practitioner who desires to have on his shelves a reference volume on pharmacology and therapeutics from the scientific point of view. It is written with German thoroughness, is up to date and as complete as it is possible for a volume of its size to be. Particularly noteworthy is the discussion of alcohol both as a food and as a drug. Recent advances in therapeutics, such as sub-arachnoid cocainization and the use of adrenalin are adequately treated.

DIE PHYSIKALISCH-DIAETETISCHE THERAPIE IN DER AERZTLICHEN PRAXIS. By B. PRESCH, Nos. 3-5. A. Stuber's Verlag, Wuerzburg. 1903.

With the third, fourth and fifth "Lieferung," this valuable little work is nearing completion. As its title indicates, it ignores all medicinal therapeutics, but gives on the whole a very satisfactory account of the dietetic and physical treatment of disease—a therapy woefully neglected by the average practitioner. The presentation is brief, clear, reasonably complete, if somewhat dogmatic, and the book can be unreservedly commended to our readers.

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ORIGINAL ARTICLES.

A METHOD FOR RADICAL CURE OF VESICO-VAGINAL FISTULA WITHOUT LOSS OF VESICAL TISSUE.

By R. F. AMYX, M. D., of St. Louis, Missouri.

Without reviewing the various methods that are now in vogue or those that have been employed for the repair of vesico-vaginal fistula, I will briefly describe a method that I employed in one case at St. Mary's Hospital, December 17, 1902.

The patient is put in the lithotomy position. A Simms' speculum and two lateral vaginal retractors are used in order to dilate the orifice of the vagina. The fistula is grasped by a small tenaculum and pulled toward the vaginal orifice. A probe is then inserted into the fistula so that a guide is furnished to facilitate the dissection of the tract. After ascertaining the direction of the fistulous tract (Plate 1-A), a circular incision is made around the opening of the fistula at a point about one-fourth inch from the opening. (Plate 1-B.) This incision is made so that it should include only the mucous membrane of the vagina. (Plate 1.) The latter is dissected up from the underlying connective tissue toward the vaginal opening of the tract. After dissecting the circular vaginal flap, the next step is to free the tract itself as it passes from the vagina towards and into the bladder. (Plate 1-B and B.) This is done with a bistoury or a pair of sharp-pointed scissors. Great care should be exercised during this procedure lest the mucous membrane of the bladder is cut. (The dissection should only go to the mucous membrane of the bladder.) The fistulous tract should not be opened at any point, as it would make a condition that would lessen the efficiency of the operation.

After being satisfied that there is no attachment between the tract and the surrounding tissue, excepting the mucous membrane, *i. e.*, as little of the connective tissue at the vesical end of the fistula as possible, in order to steady the bladder two anchor sutures (Plate 2-CC) are placed on either side of the fistulous tract at the origin.

The next procedure is to convey two sutures through the vesical opening of the tract into the vagina. This is done by arming a long female metal catheter (Plate 3-E) with a No. 2 catgut suture (Plate 3-F), passing it through the urethra into the bladder and then through the fistulous tract into the vagina. After securing the suture in the vagina it is divided. One of the vaginal ends is then placed on a Kelley's needle and passed through on one side of the end of the dissected tract. The other portion of the suture is similarly placed. The last mentioned suture (Plate 4-F) should be placed so that any tension on the ends which lie outside of the urethra will invaginate the end of the tract. The suture represented by D, is placed so that the end of the tract can be invag-

inated without disturbing the entire tract (Plate 4-H). This being accomplished, two No. 1 catgut sutures are passed through the end of the invaginated tract. The tract is invaginated a little more and another No. 1 catgut suture is placed,

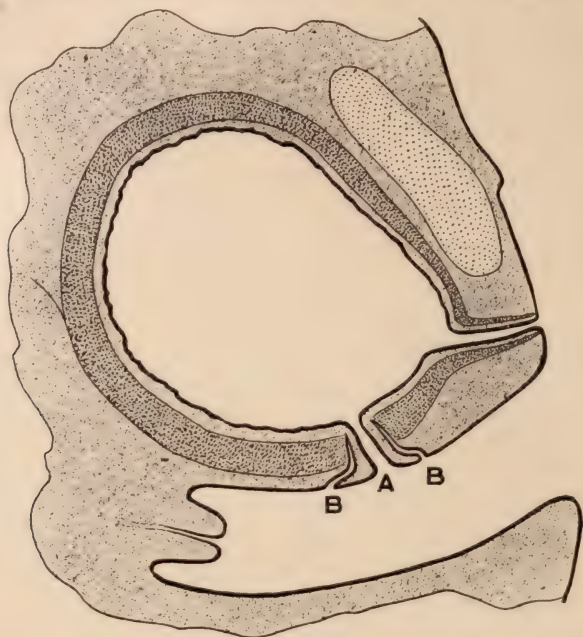


PLATE 1.

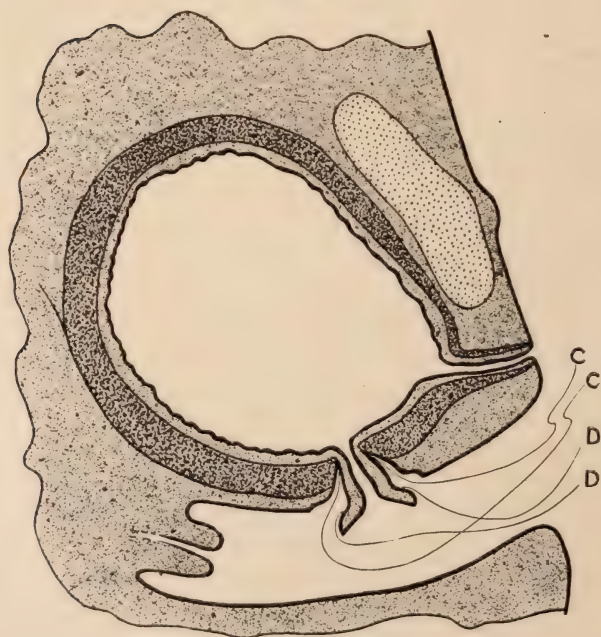


PLATE 2.

the number of sutures in the tract being regulated by its length. (The anchor suture is removed as the invagination is completed.)

After the entire tract has been invaginated, several buried catgut sutures

are placed at the end of the tract. (Plate 5.) These include the connective tissue at the base of the invaginated portion. The invagination of the tract is greatly facilitated by making tension on the vaginal anchor sutures (Plate 4-D

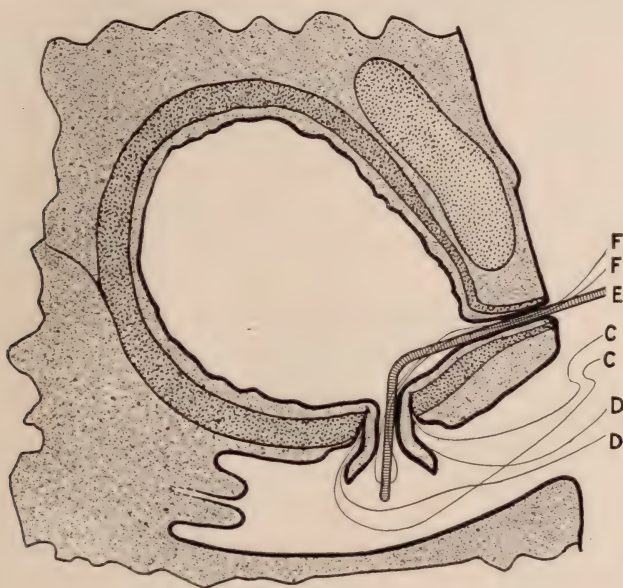


PLATE 3.

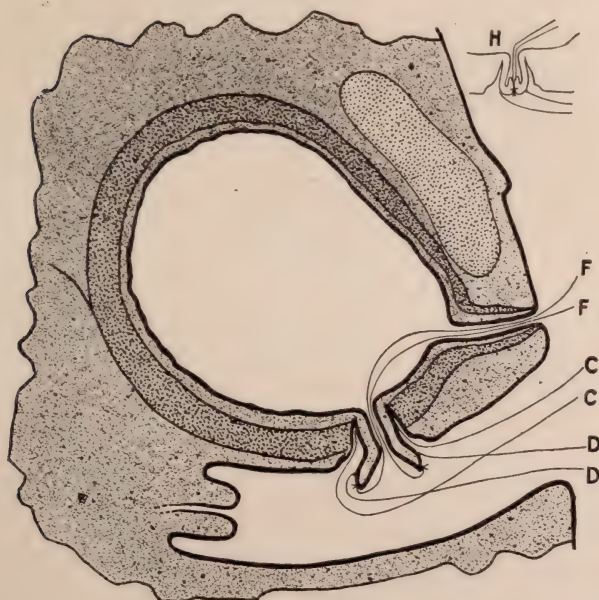


PLATE 4.

and C) which were placed before the invaginating sutures (Plate 4 F) were placed. The denuded surface in the vagina is closed with interrupted silkworm gut sutures, the line of sutures being on a vertical plane, as suturing in this di-

rection gives a better support to the underlying buried tissues. The sutures which pass through the urethra are fastened on the pubes with adhesive plaster. (Plate 5-F.)

The above described method is referable to small and medium sized fistulæ. In large openings of one-half to one inch diameter I would recommend that the dissection of the circular vaginal flap should commence at a point one-half inch from the edges of the opening of the fistula. This will provide for a tract long enough for invagination and with freshly exposed surface for a closure of the fistula. The technique is the same as that described above, excepting that the vaginal flap is considerably wider.

The after-treatment consists of inserting a retainable soft rubber catheter in the bladder for drainage. The patient lies on her side and abdomen alternately.

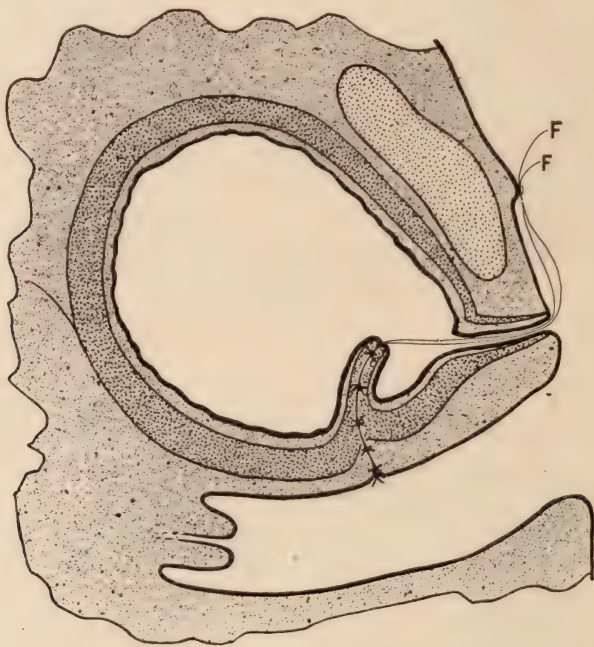


PLATE 5.

The rubber catheter is cleansed by irrigating the bladder with a small quantity of 2 per cent. boric acid solution two or three times a week. The catheter should also be moved at each irrigation. At the end of fifteen days the interrupted silkworm gut sutures in the vagina are removed. The catgut anchor sutures, which are attached to the pubes become absorbed on the fourth or fifth day, and are easily removed without disturbing the invaginated portions. Some difficulty is experienced in removing the retainable, soft rubber catheter, as it is liable to become imbedded in urinary deposit and become quite firmly fastened to the mucous membrane of the bladder. This condition can be overcome by cocainizing the bladder or by giving a general anesthetic and inserting a Kelly's cystoscope into the bladder, first allowing the end of the catheter to pass through the cystoscope. An irrigation of sterile water is allowed to flow quite forcibly into the bladder through the cystoscope in order to wash away the urinary sedi-

ments which may have collected about the enlarged portion of the catheter. The catheter is then rotated in order to loosen it from mucous membrane. It is then removed by pulling it into the lumen of the cystoscope. The cystoscope should be inserted a second time and all particles of incrustated urinary sediment should be washed from the bladder.

The conclusions I wish to emphasize are as follows:

1. There is no loss of vesical tissue.
2. A portion of the vaginal mucous membrane is used to lengthen the tract so that a long invaginated tract can be obtained.
3. The large area of freshly exposed surface is obtained for the process of repair in the invaginated portion.

A review of the literature dealing with the various methods used in repairing vesico-vaginal fistula does not reveal any mention in which a portion of the mucous membrane of the vagina was used to lengthen the tract of the fistula so that a perfect invagination could be made, nor where the tract was kept elevated by means of an anchor suture being fastened externally to the pubes.

In conclusion, I wish to thank Dr. Francis Reder for the courtesy of reporting the two cases occurring in his practice, and also for the valuable services rendered on the occasion of my first operation, December 17, 1902.

THE HEALING OF GRANULATING SURFACES BY APPLICATION OF COBALT-AURATE ANIMAL MEMBRANE.

BY WARREN B. OUTTEN, M. D., of St. Louis.

It can be asserted with truth that notwithstanding our knowledge of the process of repair upon granulating wound surfaces, the manner through which healing is produced, and the means applied in the local treatment, that it is broadly diverse and still remains a problem of uncertain time and mixed results. While physiological rest is the great factor in healing, the ways of obtaining this rest through various agencies used, show that the surgeon is still uncertain as to what is the best, since no treatment so far employed has been markedly and broadly efficient over and above the great diversity of means as at present used. We know that a new and temporary tissue of embryonic type constitute granulation tissue, and this acts as a scaffolding or temporary structure, which aids and promotes the construction of more permanent tissues. Granulation tissue is produced entirely by the activity of cells; these cells may be single, polynucleated and wandering, resembling embryonal cells when functionally engaged and are then called formative tissue cells.

These cells assume a multitude of shapes, being drawn towards the point most needed perhaps by a chemotactic activity. Then there appears an intercellular substance becoming fibrillated, then we have a new connective tissue formed of cells of mesoblastic origin, differing from the epithelium around the margins which subsequently cover the granulated wound. Normal granulating wound surface consists of numerous minute projections known as granulations, being composed of the tissues above described around a budding capillary vessel. This capillary budding is the result of karyokinetic activity upon the hypoplastic cells of which it is mainly composed. Endothelial activity is due to new cell

formation, and the construction and projection from the capillary which attains the dignity of its parent vessel. Connective tissue cells forming around a capillary loop forms the granulation.

Healing, then, by the granulating process is the formation of hundreds or thousands of granulations. New granulations are formed on the top of those which precede them. The first formed granulations being deeply seated undergo condensation and metamorphosis of tissue, being converted into something high in tissues. Epithelium reproduction around a granulating surface margin, along with granulation tissue effects, becomes possessed of epithelium covering and thus it is the healing process is completed. Unfortunately these two processes do not keep pace with each other. When surface repair takes place too easily we have a depressed scar. If, on the other hand, surface repair is slow or too halting, we have exuberant granulations which are spoken of as fungoid or proud flesh. Epithelium can have no origin save from its like, and must be supplied from regions where it has pre-existed. Epithelium activity at times becomes retarded. It is always slower at the termination of the healing process than it is at the beginning. It is a daily history that after a certain amount of this repair the processes may come to a complete halt; such then being the fact, means of stimulation and promotion, such as skin grafting, etc., must be devised in order to accomplish the desired result.

The first effort in the formation of granulating tissues, as before stated, is a trelliswork of temporary and delicate cell structure, placed in a certain amount of intercellular homeogenous substance. Budding capillary loops causing the surface of the wound to mount nearer and nearer to a level of its epithelial border. The most common result in granulation is its metablastic conversion into fibrous tissue, possessing contractility without elasticity. When we have loss of substance this fibrous tissue resulting from metablastic conversion results in contracting scars. Now, then, have we any means beyond position, extension and grafting to overcome or minify the continued cicatricial contraction of a wound healed through the granulating process?

The writer is uncertain whether it is possible to supply through granulations such a thing as cell nutrition, aiming thereby to replace as much as possible the loss of substance which has come with the infliction of the wound, and which must be healed by the granulating process.

We are well aware that epithelium can have no origin save from its like, and must be supplied from where it has pre-existed. Hence, if we can supply nourishment to the granulation cells, we can replace to a certain extent the loss of substance and have a less contracted scar. It is natural to suppose that if we can supply the essential chemical elements which make an increase in growth of granulation, we can form a more perfect phase of healing by supplying these chemical solutions which somatically and biologically exist in live animal tissue.

Let us continue and speak of the manner and the means which are at present locally used in the treatment of granulating wound surfaces. We will not burden you with any views concerning constitutional treatment of granulating surfaces, since we know the general treatment is very rarely demanded when we are dealing with healthy granulating wounds or ulcers. The study of a granulating wound surface or ulcer comprehends in it the study of constitutional conditions and necessary constitutional treatment.

It is the writer's purpose to speak especially of the local treatment of gran-

ulating surfaces in their acute condition, whether following the immediate infliction of a wound or the conversion of a chronic surface into an acute one. We know that physiological rest is the great basic element in their treatment—complete repose or as near complete repose as can be obtained through the application of splints, confinement in bed, rest through temporary paralyzation, rest through aseptic and antiseptic protection of granulating surfaces.

It is true that in absolutely healthy and normally healing surfaces but little treatment as a general thing, except protection of the surface, is demanded. When the epithelial covering of a granulating surface keeps pace with the filling of the depression by granulation, all that is needed is to prevent external irritation from various surrounding sources. The prevention of contamination and consequent putrefaction by ordinary bacteria in the air, etc., protective septic and antiseptic covering and absorbent dressing must be employed.

When temporary and halting healing becomes manifest, various stimulating agents, zinc, chloride, silver nitrate, etc., are applied to spur sluggish granulations to normal action. Watery solutions and unguents constitute the general means heretofore used; under the head of water solutions many agents are comprehended. Under the head of unguents all imaginable combinations of soluble and insoluble antiseptics are used in connection with various excipients like vaseline, lard and lanolin.

The writer is of the opinion that unguents should never be used in the treatment of granulating wound surfaces, since they court conditions which retard healing, since their repeated application and removal do not carry out the idea of physiological rest, as frictions of various intensity are required for the removal of ointments. Aqueous solutions permit easy and efficient washing of surfaces. Balsamic preparations are of use, especially in specific forms of ulcers. Now, I believe it is common sense to maintain that the dressing which adapts itself most perfectly to the factor of rest is the best treatment for acute granulating wound surfaces. It is not in the scope of this paper to determine the value of numerous peptonized preparations, but to treat of the best manner the least complicated of these surfaces can be treated.

Again, let me repeat, that if we can supply chemical elements which naturally enter into the biological formation of the granulation tissue by some allied tissue, we will accomplish a better result. This was the thought when we first commenced these experiments in healing granulating surfaces by the application of sterilized and chemically treated animal membrane.

I have experimented in various ways for the past four years with what is known as gold beater's skin, which is made from the outer coat of the cecum of the ox. This outer coat is stripped off in lengths of twenty-five or thirty inches, and freed from fat and other substances by dipping in a strong potash solution and being thoroughly scraped with a blunt knife. This membrane is remarkable for its extreme tenuity and strength. It is susceptible to the broadest and most perfect dissemination of various chemical substances within its cellular meshes. Realizing from the beginning the suspicious history and doubtful antecedents of this membrane, it became manifestly imperative that the most powerful and complete sterilizing agents should be used in order to make it safe to apply to wounded surfaces.

In order to make my ideas perfectly clear I will proceed to show the manner in which the gold beater's skin is prepared for wound treatment of the granulating class.

Large and perfectly cleaned sheets of gold beater's skin are selected. The sheets thus selected are put in hot sterilized water—not boiling water—water sufficiently hot so as to not interfere with the texture of the skins—from 98° to 100° F.—a stream of hot water preferred. After having remained in the hot water sufficiently long so as to cleanse them they are then taken from the hot water after being squeezed as free from water as possible. A solution having been made of the following agents,

R	Cobalt chloride.....	3 j
	Gold chloride.....	3 j
	Aqua distil.....	3 x
M.		

is now ready, the skins are now put in this solution so that the solution perfectly covers the skins in whatever container is used.

After the skins have been put in the container holding the cobalt aurate solution, two ounces of the oil of cassia is poured in on the skins now immersed in the cobalt aurate solution.

The reasons for using the solution herein mentioned have come in consequence of lengthy experience extending now over four years. It is necessary in the chemical treatment of the gold beater's skin to use substances which will not rob this animal tissue of its integrity nor interfere with its elasticity. After experimenting with various chemical salts, namely the chlorides, I have found that the combination of the cobalt chloride with the gold chloride will keep the skin in good condition indefinitely. The bichloride of mercury has a tendency to destroy their texture. The treatment of granulating surfaces with the gold chloride and the cobalt chloride has received no attention.

The gold chloride, according to Dr. Chrestien, is even more active than corrosive sublimate. M. Chauvaunes claims to have used chloride of gold as a caustic in lupus, in syphilitic tubercles and ulcers with good results. That it is a powerful antiseptic and germicide there can be no doubt. The chloride of cobalt is a mild antiseptic, but its combination with gold certainly gives a combination which, when locally applied, has no tendency to produce systemic conditions. I have used the cobalt aurate treated skin almost exclusively and have never yet observed any harmful effects, either constitutionally or locally. We know that the oil of cassia is a germicide equal, if not superior, to the bichloride of mercury.

We are driven to the conclusion, then, that when we prepare this animal tissue (gold beater's skin) as above indicated we have absolutely sterilized membranes. If there should be any doubt in the premises the bacteriologist can through culture mediums demonstrate in fact their aseptic condition.

After these skins have been put in the cobalt aurate solution they turn a dark purplish hue, mottled in character, showing a deposition of the chemical salt within the cellular meshes of these membranes.

The sheets of gold-beater's skin thus prepared are kept in a wide-mouthed, glass-stoppered container, immersed in the chemical solution of oil of cassia, as above mentioned. When the membranes are used upon a granulating surface the following is the method indulged in: A piece of the treated membrane of sufficient size to well cover the entire granulating surface is cut. This piece is applied to the granulating surface after the following course is pursued: It is

put in alcohol and allowed to stay in the alcohol from three-quarters of an hour to an hour. It is then taken out of the alcohol and put into hot water from 98° to 100° F. The membrane is put in the alcohol for the purpose of removing any excess of the oil of cinnamon, thus preventing heat and pain likely to come from the irritating stimulation of the cinnamon oil. After the membrane has remained in alcohol sufficiently long, and then put into the water to remove the excess of alcohol, the skin is then dried by putting it between the layers of a sterilized towel or cloth. A few punctures are made through the membrane, which is now applied to the granulating surface; the membrane thus applied is now covered with six or eight layers of sterilized gauze. Another piece of membrane is then applied on top of the gauze large enough so as to strain the air in its access to the wound. The membrane thus applied on the sterilized gauze need not be put in the alcohol, but simply squeezed between the folds of a cloth so as to remove the excess of the solution contained on the membrane. Now there is put on this membrane a layer of sterilized cotton, and then a retaining bandage applied on the top. It will thus be seen that a needed and well-timed discipline is herein indulged in in the application of this cobalt aurate membrane. The dressing thus applied to the granulating surface is allowed to remain intact for at least forty-eight hours.

I do not doubt that experience may indicate that the dressing may remain a much longer time, but I have deemed forty-eight hours as sufficient for the reason that after the application of the membrane there oftentimes comes an enormous exudation, completely saturating the dressing, and this exudation is serous in character; hence, when saturated, it should be removed. I have demonstrated constantly that within twelve or fifteen hours after the application of the cobalt aurate membrane upon any granulating surface, the membrane in contact with the granulation is completely absorbed with no vestige remaining. This is found to be invariably the case. No dressing which has been applied to a granulating surface in all the category of agents which I have used appears to be the equal of this dressing in stimulating the granulation.

My experience has extended over nearly thirty years in the treatment of these cases, and in the hospital over which I preside there is an average of from fifteen hundred to two thousand cases of granulating wound annually treated; hence the impetus given to study this character of healing has been constant and unceasing, and naturally I have indulged in any suggestion deemed of merit; and yet with this experience better results have been obtained in the brief time this form of dressing has been used than by any other known means I have ever employed. After the first application of the cobalt aurate membrane to granulations they assume a bright, vivid, healthy hue (bright as blood can make them), looking firm, erect, even and healthy. Besides this, the epithelial border appears to be stimulated in a remarkable manner. It is readily demonstrable that after the application of the cobalt aurate membrane a minimum amount of interference with the granulating surface is indulged in. There is no necessity of friction in cleansing the surface as when unguents are used. The lightest touching of the granulating surface when cleansing seems to be sufficient.

The chemical agents contained in the meshes of the cobalt aurate membrane are deposited on the surface of the granulation, thus making it a most excellent means to obtain the effects of any chemical salts with which the membranes may

be treated. Each dressing of the wound demonstrates that this manner of treatment is in a line of physiological rest and non-interference, since, as stated above, the membrane is absorbed and abundant exudation enables the dressing to be removed without interfering with the granulation. Experience has shown that the membrane can be made perfectly aseptic; such being the fact, its adaptability of treating all granulating surfaces are manifest. As a means of stimulating granulations I believe them superior to any method yet devised.

As an aid in the perfect establishment of skin-graft it is an ideal method, whether we use it in the Reverdin or Thiersch method. In the Thiersch method, when used with the membrane, every graft appears to live and flourish. When the Thiersch method is used, the granulating wound surfaces and grafts are prepared with the saline solution as is usually done. The cobalt aurate membrane is put in alcohol the same as in the treatment of granulating wounds. It is washed out with hot water, and then put into the normal saline solution until it is thoroughly soaked and permeated. After the grafts have been applied to the granulating surface, from one to four perforated cobalt aurate membranes are applied. I generally apply two membranes, and after forty-eight hours, upon examination, the grafts will be found in a healthy condition and adherent to the granulation. The salt-water cobalt aurate membrane again applied for another forty-eight hours. After this time the regular alcohol-treated membrane may be applied. When these grafts are applied upon a fresh curetted surface with treated membranes in position, great impetus to the healing process is manifest.

That granulating wound surfaces heal rapidly under this process is demonstrable to any one who will apply the membranes as indicated under the discipline as planned. I am of the opinion that granulating surfaces healed in this way are less likely to make depressed scars than by the ordinary process, and believe the healed surface possesses elasticity and is not nearly so contractile. From experience thus far, I am forced to the belief that this process has decided advantages over any process yet suggested. As to the best method of preparing these animal membranes (meaning gold beater's skins), time alone can tell, but thus far the cobalt aurate membrane does certainly meet unusually well all indications. The only objection I have found in this form of treatment is that the cobalt aurate membrane arouses granulations to excessive growth, but no difficulty has been found in managing these excessive growths when I substitute the soaking of the membrane in a normal saline solution and apply pressure. I regret that my experience in the Reverdin process will not allow me to speak with any degree of authority.

Finally, this process of treatment with animal tissues thus prepared may have many faults which time and experience will show, but thus far their virtues exceed in a great measure any faults. I have never had any constitutional effects from the local application of this treatment, and it has been applied to all forms of granulating wound surfaces. It is certainly, thus far, an advance over the older forms of treatment. I now leave it in the hands of the medical profession with the firm belief that it will indicate that it possesses decided merit.

In the use of it by thoughtful and intelligent practitioners any faults it possesses will be eliminated, and its virtues increased and its use broadened in many directions.

CEREBRAL SOFTENING OR ENCEPHALOMALACIA.

BY JOHN PUNTON, M. D., of Kansas City, Missouri,

In medical nomenclature there is no term subject to more careless use and misapplication than softening of the brain. While this may be confined largely to the laity, yet it is not uncommon to find medical practitioners guilty of the same error.

As commonly used and applied, the term softening of the brain designates a chronic general mental failure which is understood to mean a condition synonymous with dementia or general paresis. The popular belief is that in some mysterious manner general degeneration or softening of the brain results from strain, anxiety, overwork, dissipation and similar causes which lead to serious nervous and mental disturbances, but not to true organic changes. In the scientific medical sense, however, the term is restricted to retrograde changes in vascular territories of the brain, occasioned by arterial obliteration in which the vessel lumen is partially or wholly occluded, resulting in a deprivation of blood to parts affected with consequent secondary changes. It is, therefore, in its inception a local pathological organic process similar to that of infarction, but instead of reducing the brain power and capacity as a whole, it destroys specific brain functions.

Some care must, therefore, be exercised in the use of the term by medical men lest it convey an erroneous impression of the future course of the disease. Formerly it was also believed that the softened atrophic area was due to inflammation or some similar morbid process, but today we know that the immediate cause is due to arterial occlusion incident to pathological vascular changes.

Widely disseminated foci of softening may, however, be present in a brain as the result of widespread arterial disease; but all forms of acute softening are local in origin, while the affection may be single, diffuse or multiple in character. Moreover, arterial obliteration does not always lead to softening, in which case the parts affected by the occluded vessel are nourished by neighboring or anastomosing vessels. In such cases there would be anemia, and malnutrition follow as a matter of course, but necrosis may not necessarily be a result of such injury. While the disease at times may be limited to the acute stage, yet in the majority of cases of cerebral softening the pathological condition becomes chronic and more or less permanent.

Brain tissue may disintegrate and soften as the result of various morbid processes, but the chief causes of cerebral softening are:

1. Occlusion of arteries as the result of embolism and thrombosis.
2. Pressure from growths, tumors or compression in other ways.
3. Softening which accompanies encephalitis.
4. Occasionally softening may be due to occlusion of veins, but such an origin is rare.

Chronic softening may, however, result from other processes, according to Wernicke and Gowers, as both claim we may have chronic progressive softening

without obliteration of blood vessels; but these views are subject to future verification. When a cerebral artery is occluded from any cause, the first effect usually is to cause anemia of the territory supplied by affected vessel. Later the tissues degenerate, which is followed by necrosis, and white softening is produced.

If the strangled area becomes suffused and infiltrated with blood, the hemoglobin is added and red softening appears. Finally, as resorption takes place and degeneration becomes complete by the conversion of the blood into pigment, a yellow color is imparted to the softened foci, giving rise to yellow softening. Hence, three forms of softening are recognized, viz.: white, red and yellow; but these are simply different stages of the same pathological process, and not separate and distinct morbid entities. White softening, however, is not necessarily followed by the red and yellow changes (as these depend almost entirely upon the amount of blood present in the affected area). But red softening when present always represents an early stage of the disease, and appears, if at all, in a few hours or few days; hence, it is an acute process, while yellow softening does not appear short of a few weeks and is, therefore, more particularly a feature of chronic lesions. A fact of practical bearing, however, is that nerve cells, when deprived of their nutrition for forty-eight hours, are permanently ruined. Ordinarily, after occlusion occurs, the surrounding tissue degenerates, and in a few hours or days, at best, white softening supervenes. The softened foci then become infiltrated with serosity, while the cellular and neuroglial elements become granular; at the same time the degenerating focus shrinks, causing a depression which becomes filled with a turbid milk fluid which contains myelindroplets and numerous granular cells, the presence of which are said to be the best means of distinguishing true softening from post-mortem maceration.

In some cases the softened focus becomes infected, as by an embolus, from infectious endocarditis, and a true encephalitis is thus developed. This rapidly goes on to abscess formation, frequently with putrid, offensive gangrenous contents. In favorable cases, however, where such infection does not occur, the degenerated tissue undergoes a process of repair by which the softened focus becomes encapsulated; cicatrization then ensues, and a scar is left to mark the location of the vascular lesion.

At the seat of arterial obliteration from local thrombosis we find in recent cases a partial or complete organization clot, which is adherent to the surrounding tissue. It may consist of various substances, but often proves a fruitful source of supply for the formation of emboli.

Foci of softening are found in all parts of the brain, hence the location is various, but they seem to prefer chiefly the cortex, and this is accounted for by its having the largest surface. As the occluded vessel producing the softening is due chiefly to an embolus or thrombus, it is the nature and character of these two etiological factors that we are necessarily compelled to recognize as supplying us our most unique information concerning the pathogenesis of cerebral softening.

It is now a well-established scientific fact, however, that emboli more frequently lodge in arteries of the left than of the right side of the brain. The anatomical explanation of this is too well known to repeat here; suffice it to say that the left half of the brain pays dearly for its supremacy of development by

its greater liability of vascular disease. The left middle cerebral artery and its branches are, therefore, the vessels that are preferentially selected as the seat of softened foci, while these are also the favorite seats of atheroma. This, however, does not preclude the possibility of other vessels becoming involved in the pathologic process. Softening is rarely found in the cerebellum or bulb except in syphilitic endarteritis, which frequently implicates these parts. It is clear, therefore, that the ultimate causes of cerebral softening are chiefly those of the arterial diseases that underlie thrombosis and embolism. Generally speaking, thrombosis is usually a sequence of senile atheroma and arterio-sclerosis as well as specific endarteritis, and is more commonly found in advanced life. A similar condition of the arteries may also result from chronic intoxication such as results from alcohol, lead, gout or syphilis, while hereditary influences may predispose to it. Moreover, diseases of the nervous system which are accompanied by permanent disturbances of function of the cardiac and vascular nervous systems, such as cardiac neurasthenia and certain forms of traumatic neurosis, may incite the development of atheroma. Continued emotional excitement is said to act in the same way. Embolism, on the other hand, is usually due to an accident which can be traced to the heart, and follows such conditions as valvular disease, mitral stenosis, endocarditis, atheroma, aneurism, and all forms of cardiac weakness. These, again, may be the result of rheumatism or the infections of typhoid, pneumonia, diphtheria, la grippe and similar diseases. An embolus may also be a disintegrated part of thrombus. As a rule, however, emboli occur most often in young and middle-aged persons, while thrombi (excluding the syphilitic forms) affect individuals beyond middle life.

Cortical softenings are also more commonly associated with embolism, while those found in the central areas of the brain are largely due to thrombosis.

The symptomatology of vessel occlusion or obliteration depends upon the nature of the cause as well as the extent and seat of the lesion. It may, therefore, be sudden or gradual in onset, and the resulting symptoms be transient or permanent, local or general in character. As a rule, when the onset is sudden the symptoms are closely allied to those of cerebral hemorrhage, and if it be due to embolism there are no premonitory symptoms, although there may be convulsive twitchings, rapidly followed with or without loss of consciousness and hemiplegia.

These are also accompanied with mental confusion or irritability, vertigo, somnolence, occasionally delirium or aphasia, and even paralysis. When gradual in onset the symptoms are progressive in character, and if due to thrombosis, which is the common rule, are attended with premonitory signs, such as fullness of the head, vomiting, vertigo, numbness, muscular weakness or temporary paralysis, speech disturbances which later amount to true aphasia, and finally paresis or paralysis which may assume the monoplegic, hemiplegic, or general type and accompanied with true coma.

If the softened foci be not limited in its pathologic sphere of influence, but diffused in character, then the resulting symptoms would be both transient and permanent, the former rapidly giving place to the latter, in which case their localizing character would indicate the special seat of the lesion. If, however, the foci of softening be circumscribed to local cortical areas the complexion of resulting symptoms would necessarily be changed in character and form corresponding with the special area involved. As a rule, in both embolism and

thrombosis, the coma and other general symptoms rapidly disappear, revealing the paralysis and aphasia together with other focalized features but which also have their special localizing value in determining not only the seat of the lesion but also whether it be single or multiple in character. In syphilitic cases there are usually persistent headache and cranial nerve palsies which also aid in the diagnosis. The hemiplegic, which is so common an accompaniment of cerebral softening is usually confined to the right side, and in this respect it presents a broad contrast with that accompanying cerebral hemorrhage which is usually on the left side of the body. Moreover, women are more commonly affected with embolism than men, and the mind in such cases is said to be less affected than in thrombosis. A point emphasized by Oppenheim is worthy of remembering, viz.: "That at times the symptoms of cerebral softening do not correspond to the seat of the lesion, in which case they appear to ridicule all our laws of localization." In addition, it should be remembered that numerous small foci of softening may be present and scattered throughout the brain in addition to the larger one which may be recognized, but which in the former case may not be revealed only by microscopic examination.

Acute softening may rapidly produce death, even within twenty-four hours, but as a rule the patient survives the onset and if death occurs it does not take place usually for several weeks after the disease is established. Often after the acute stage is safely passed, however, the patient passes into a chronic condition which closely resembles that which follows cerebral hemorrhage. In such cases the attending symptoms are of a fluctuating character, giving rise at times to the belief of a speedy recovery by their apparent improvement, but again presenting themselves with renewed fury and in spite of all treatment progress and become persistent for months, until finally the patient succumbs to some intercurrent affection which proves fatal.

The diagnosis of cerebral softening, therefore, at times proves one of the most difficult problems in medical practice and occasionally baffles medical skill. It is based, however, upon all the data referred to and more especially those relating to its etiology and symptomatology. Practically speaking, the question of differential diagnosis concerns chiefly the facts relating to arterial occlusion and whether this be due to embolism, thrombosis or hemorrhage, and more especially the two latter conditions. On general principles after the age of ten and on up to forty a paralytic attack suggests embolism or syphilis.

A recent history of acute rheumatism, or infectious fever associated with heart disease also speaks strongly for embolism. Church states that practically a diagnosis of embolism cannot be made in the absence of cardiac symptoms. While embolism occurs more often in women than men, thrombosis is found more commonly affecting the male sex. Embolism is rare in children and as the onset is sudden it is not attended with the premonitory signs. It is, however, with cerebral hemorrhage and thrombosis that the greatest difficulties in diagnosis are encountered, as these have many features in common.

For instance, syphilis and alcohol may cause both, and both have apoplectic onsets and paralysis sequels. But as those points have already been alluded to in the text, it may prove more satisfactorily if the differential features of diagnosis between these conditions are presented in the form of a table compiled from the various authorities.

With certain modifications the arrangement adopted by Church in his re-

cent text-book is the one selected, with such additions as would appear helpful in rendering them even more useful in their practical clinical application. From this standpoint the leading features in their differential diagnosis may be classified under four principal heads, viz.:

1. Predisposing conditions.
2. Inciting conditions.
3. Onset conditions, and
4. General course of the disease.

Under predisposing conditions we consider the differential features of age, heredity and pathological features. Under the inciting conditions arterial tension and the effects of excitement, shock and sleep are referred to. Under onset conditions we include the character of the premonitory symptoms as well as the paralysis, coma, temperature, pulse, respiration, facial expression, eyes, pupils, and rigidity and speech effects. Under the general course of the disease we consider the special tendency of the paralysis and aphasia as well as the significance of athetosis and convulsions together with emotional disturbances.

When all these differential points are duly considered and given their relative value, the diagnosis of cerebral softening is reduced largely to a question of logical deduction.

The following table, however, may serve a valuable guide in obscure cases and is offered for what it is worth:

	HEMORRHAGE.	THROMBOSIS.	EMBOLISM.
1 Predisposing conditions. 1 Age	Most frequent between the ages of 40 and 65, but may occur in infancy or at any age.	Most frequent in the aged and as a result of syphilis in young adults.	Most common between puberty and middle age.
2 Heredity	Often a family tendency to arterial disease.	Rare.	Rare.
3 Pathological changes	Periarteritis and miliary aneurism the usual antecedents.	Endarteritis, atheroma, arteritis, endocarditis and cachesia and blood dyscrasias.	Rheumatism, endocarditis or cardiac disease, infectious fevers, pregnancy, blood dyscrasias.
2 Inciting conditions..	High arterial tension, excitement, effort or shock.	Low arterial tension, rarely excitement or effort sleep favors it.	High tension, excitement, effort, shock.
3 Onset conditions. 1 Symptoms	No premonitory symptoms usually.	Premonitory symptoms common.	Not usual, unless it be those indicative of chronic arterial disease.
2 Stroke.....	Sudden stroke, common.	Complete stroke, rare.	Sudden stroke, common.
3 Coma	Marked and prolonged.	Slight or wanting.	Not usual, may, however, but not prolonged.
4 Temperature.....	Rectal temperature reduced, surface temperature elevated on the paralyzed side.	Usually unchanged.	Unchanged.
5 Pulse	Slow, full, bounding.	Weak and compressible—soft and rapid.	Unchanged.
6 Sex	Males chiefly.	Either sex.	Women chiefly.
7 Respiration	Difficult, stertorous, Cheyne-Stokes, common.	Less profound and sometimes undisturbed.	Difficult breathing.
8 Facial expressions	Congested face.	Pale face.	Pale face.

	HEMORRHAGE.	THROMBOSIS.	EMBOLISM.
9 Paralysis	Usually hemiplegic, developed at once and profound. Usually left-sided.	Usually monoplegic type and inclined to extend. If it occurs may be on either side.	Hemiplegic less complete. Usually right-sided.
10 Rigidity	Frequent, early.	Frequent, early.	Less frequent.
11 Pupils	Generally fixed and often unequal.	Affections of pupil common.	Less frequent.
12 Eyes and Head	Conjugate deviation of eyes and rotation of head.	Conjugate deviations may be present.	Less frequent.
Speech effects— Aphasia	Not common, but may be present.	Not common.	Aphasia exists in the majority of cases.
4 General course of disease.	Rapid improvement. Foot usually gains more rapidly than hand.	Slow motor improvement. Extension of paralysis often observed. Foot often gains less than hand.	Rapidly improved and recovery not uncommon.
1 Paralysis			
2 Anesthesia	Anesthesia, usually fleeting.	Parasthesia persists.	Not common.
3 Aphasia	Aphasia, if present, does not usually persist.	Persistent aphasia and other cortical symptoms common.	Usually present.
4 Athetosis	Postplegic athetosis tremor and chorea common.	Persistent aphasia and other cortical symptoms common.	Not common.
5 Convulsions	Rare.	Common.	Rare.
6 Emotions	Spasmodic weeping and laughter common.	Uncommon.	Uncommon.

The prognosis of cerebral softening is always attended with a great deal of anxiety and interest on the part of those chiefly concerned.

Like all other brain diseases, its gravity depends upon not only the seat but also the extent of the lesion. In the acute stage as a rule it is more favorable than hemorrhage. If due to embolism it is also good but is likely to recur. The degree of the coma governs the prognosis in that the more deep and lasting the less the chance of recovery. The same pertains to the temperature—the higher its degree and the more it persists the greater the danger to life. The same applies to the respiratory centers. The degree of paralysis as well as its duration are valuable prognostic indications also. After the third week if paralysis is present it is apt to be permanent, as the collateral circulation is established prior to this. The age of the patient as well as the cause bear the same prognostic relation here as in other brain diseases. Generally speaking, after the chronic stage is reached, which occurs in about two or three weeks after the accident, the prognosis to life is more favorable although a permanent recovery cannot be hoped for. So far as treatment is concerned, to be effectual it should antedate the occurrence of the softening, hence it is largely prophylactic. When softening does occur, however, the treatment may be divided into the acute and chronic stage, as it is very similar in all respects to that of cerebral hemorrhage, and having already gone beyond the limits of the time allotted me, I am sure you will allow the omission if I refrain from its further allusion.

In conclusion, I desire to acknowledge my indebtedness in the preparation of this paper to such text-books as Gowers, Mills, Church and Peterson, Oppenheim, Dercum and Dana, whose views have been freely used and expressed in the text.

Altman Building.

CLINICAL REPORT.

EXTRAUTERINE GESTATION—REPORT OF THREE CASES.

BY C. E. RUTH, M. D., of Keokuk, Iowa.

In my early practice extrauterine fetation was looked upon as a rarity, a sort of curiosity, which the general practitioner might expect to meet possibly once in a lifetime, but could not expect to diagnose with any assurance during the patient's life, and certainly never before rupture. Thanks to the pioneer efforts of Lawson Tait and many of his later able aids, we can now expect a small percentage of cases to be diagnosed before rupture, a large percentage immediately upon rupture; and in nearly all cases a diagnosis should be made sufficiently early to save life.

My fear that many general practitioners do not realize the frequency of the condition, the possibility of diagnosis, and the need of prompt surgical treatment has induced this contribution.

A history of sterility, with regular menstruation in which one or more periods are missed, together with any of the symptoms of pregnancy, especially morning nausea, mammary symptoms, subjective and objective, and with moderate pain on one or other side of the uterus should awaken sufficient suspicion to warrant pelvic examination which will sometimes disclose the nature of the condition before rupture occurs. If to the above symptoms should be added violent pain coming on suddenly without apparent cause, located low in the abdomen, accompanied by faintness, complete syncope, great pallor, rapid feeble pulse, low temperature, cold, clammy perspiration, the diagnosis should be almost positive without pelvic examination. If, however, upon pelvic examination fluid is found in the cul-de-sac of Douglas, with a mass to one or the other side of the uterus, there is internal hemorrhage almost certainly due to rupture of a tubal pregnancy.

In some cases the history is not so clear because lacking in one or more features. Pain and symptoms of internal hemorrhage are less severe, though often repeated, and finally followed by inflammatory sequelæ which greatly mask the etiological factors of the case, but should not alter the obligations of the physician to his patient, viz.: to open the abdomen, stop the hemorrhage and remove the cause of the menace to the patient's life. The duty of the physician to secure the bleeding vessel is as great if the hemorrhage comes from the ovarian or uterine artery as if it came from the brachial.

I herewith report three recent cases occurring in the last few weeks of 1902. One of these cases had not been diagnosed for six weeks, owing probably largely to the patient's refusal to submit to examination and also pain, preventing anything like thoroughness of examination when finally attempted. In this case the history was complete and typical. Another case was complicated by an ovarian cystoma large as an orange, which tended to cause confusion. Case three had menstruated normally two weeks before rupture and gave no hint, whatever, in any way of pregnancy, but the picture at the end was so typical, complete and awful as to make an impression on my mind never to be forgotten. I wish it might be as indelibly stamped on the mind of every practitioner. Its outcome proves that these cases are never hopeless unless actually dead.

CASE 1.—Mrs. O. B. H., Keokuk, Iowa; aged thirty years; married seven years. No pregnancies. Menstruated last in July, 1902, followed by shooting pains in the breasts with some nausea. The last week in August, 1902, was taken with violent pains in lower abdomen accompanied by great faintness. Saw the patient with Dr. F. M. Fuller, October 8, 1902, at 10 P. M. Three days previously she had been taken with severe pain, which had been constant, and faintness accompanied by persistent pallor. Physical signs were a soft, irregular mass felt through the entire pelvis, uterus pressed against pubes. Diagnosis—extrauterine pregnancy with tubal rupture and hemorrhage. Operated upon at St. Joseph's Hospital at 10:30 A. M., the following day. Ruptured right tube was removed together with a three-months' fetus, placenta, cord, and large amount of clotted blood. Fetus was free in the cul-de-sac of Douglas, posterior to uterus. Recovery was without incident.

CASE 2.—Mrs. J. G., West Point, Iowa; aged thirty-eight years. Mother of three children, the youngest being twelve years old. One abortion fourteen years ago; recovered after curettement. October 19, 1902, consulted Dr. DeVilblis for pain in lower abdomen on left side. Pain became very severe by the 26th, when curettement was done. Missed one menstruation; followed by slight show November 13th, accompanied by severe pain. Pain increased during defecation. Uterus was found fixed and displaced forward by an irregular mass placed behind it. Temperature was normal throughout illness. Diagnosis—extrauterine gestation with rupture of fallopian tube. Complication of an old perineal laceration and hemorrhoids. November 19, 1902, operated upon at my clinic at St. Joseph's Hospital, Keokuk, Iowa. Attached to the right ovary was a cyst as large as a small orange. Left ovary and tube indicated that they were the source of the great amount of hemorrhage found in lower abdomen and pelvis and which was caused by early rupture of a tubal pregnancy. Double salpingo-oophorectomy was done together with a repair of perineum and removal of hemorrhoids by clamp and cautery. Recovery was complete without incident.

CASE 3.—Mrs. J. S., Keokuk, Iowa; aged thirty-two years. General health good. Mother of five children. About a year previous at last labor gave birth to twins. After rather heavy exercise was taken suddenly with violent pain in lower abdomen and immediately went into collapse. The patient had menstruated two weeks previously. When seen by me at 7 P. M., December 26th, 1902, two hours after onset of the pain, I found her speechless, pulseless, cold, and bathed in a clammy perspiration accompanied by death-like pallor. Gave hypodermic of strychnine 1-20 gr. and morphine 1-8 gr., raised foot of bed, bandaged legs and thighs, gave a quart of Des. normal salt solution per rectum. Relaxation of sphincters being almost complete, pressure was required to prevent immediate loss of the injection. Applied heat. Temperature after working with her for one hour was 95.5° F. Two hours later temperature was 97.5° F. Pulse could be taken at the wrist and was 140. Ill defined mass outlined behind the uterus. Diagnosis was based almost wholly on symptoms of abdominal hemorrhage which was probably from a ruptured tubal pregnancy. The patient was immediately removed to St. Joseph's Hospital and operated upon at midnight without removing her clothes or taking her off of the feather-bed on which I had found her lying. She was rolled up in the feather-bed, placed on a stretcher and removed to the hospital, as no risk could be taken of a fall of temperature from exposures to cold. Was assisted by Drs. T. J. Maxwell and R. H. Fegers. Abdomen was found filled with blood from a ruptured tubal gestation of the left side. Small ovarian cyst was found on the right side and removed together with the ruptured left tube. After removing the blood and washing the abdominal cavity with Des. normal salt solution the abdomen was closed over as much of the salt solution as it would hold. Head was kept low for two days. Though still very anemic she was able to be up and go home in four weeks.

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EDITORIAL COMMENT.

AUTOPSY STATISTICS IN CHILDHOOD WITH REFERENCE TO TUBERCULOSIS.

In the current number of *Archives of Pediatrics*, Hand publishes the autopsy statistics of the Philadelphia Children's Hospital for ten years. The total number of autopsies was 332, total number showing tuberculosis 115, or 34.6 per cent. It is important to note that the oldest lesion was found to be in the bronchial lymph nodes in 75 cases (65.2 per cent.), and that the bronchial nodes were affected in 94 cases (81.7 per cent.). Some years ago Northrup reported 126 consecutive autopsies from the New York Foundling Hospital. In all of these, irrespective of the cause of death, the bronchial nodes showed evidences of tuberculosis. These figures are of importance in determining the most frequent site of invasion.

It is interesting, however, to note that in 10 cases (8.7 per cent.) the primary focus was in the mesenteric nodes, while the mesenteric nodes were involved in 53 cases (46.1 per cent.). These figures are significant as having some bearing on the question of the transmissibility of bovine tuberculosis. Judging from the fact that the intestines showed ulceration in only 28 cases (24.4 per cent.), it would appear certain that in some cases the bacilli must have passed through the intestinal mucosa without apparent lesion. In no other way could the more frequent involvement of the mesenteric nodes be explained.

A study of the age incidence gives the following figures:

Under 2 years,	60	(52.1 per cent.).
2-5 "	25	(21.7 per cent.).
5-12 "	30	(26.0 per cent.).

Thus a little over half the cases occurred during infancy. The lowered resistance of this period of life may possibly offer a partial explanation for this. But it is probable that the fact that at this time milk is the chief article of diet will explain this incidence more nearly. The fact that in nearly 9 per cent. of the cases the primary focus was intestinal is another argument in favor of the possibility of transmission of tuberculosis through milk infection.

CITY HOSPITAL.

The proposed changing of the charter of St. Louis offers to the local medical profession a golden opportunity to reorganize medical affairs pertaining to municipal government. The present organization places all responsibility in one man, the Commissioner of Health, who has an advisory board of health and a superintendent for each of the several hospitals. Each of these officers is appointed by the Mayor of St. Louis.

Within the past few years specialism has been developed in all branches of business and professions. In business, department stores, trusts and other large companies, with their departments, have made most wonderful progress,—the greatest in history. These results have been accomplished by men skilled in some particular work laboring in unison with others skilled in different branches, directed by the advice of a number of intelligent, well-trained officers. Our railroad, trust, banking and commercial companies, large factories, etc., demonstrate this principle beyond the realm of argument.

In the law and medical professions similar subdivision of labor and studies has given equally brilliant results. So specialism and the combination of brains and energy are the logical sequence of modern advance and must give best results; consequently an opposite policy must give results of an inferior nature. The poorer results do not necessarily indicate inferior talent, but are due to whatever talent may be present working at a disadvantage.

Municipal hospitals throughout our land have never been all that might be expected nor all the people are entitled to. Yet some of our very best men are and have been in various ways associated with these institutions. This condition is largely due to the fact that a superintendent is responsible for the entire operation of these institutions. This fact is made more prominent by the success of a few municipal hospitals, such as the Boston and Cincinnati city hospitals and some endowed institutions. Here a board of trustees, associated with a number of the best local medical men, give a portion of their time and work to the organization and operation of these hospitals. The positions are filled by men of liberal and patriotic spirits, seeking to do their part toward the improvement of the body politic and the betterment of the condition of the poor element of society.

While the new charter for St. Louis is being prepared, the profession and laymen can have no better opportunity to show their desire for and co-operation in the improvement of the city hospital.

Looking to this end let us propose the removal of the management of the city hospital from the duties of the Health Commissioner and place it in the hands of a board of trustees composed of seven representative business men of the city, who shall be appointed for a term of seven years by the Mayor of St. Louis. The appointments are to be so arranged that the term of service of one trustee expires each year. The duties of this board shall be to appoint all officers and

employees of the hospital; formulate the general policy of the institution; guard all appropriations for its maintenance, etc., and be responsible to the Mayor for all matters pertaining to this branch of municipal work.

The actual operation of the hospital should be divided into two branches, namely, executive and professional. The duties of the executive division would be the care of the buildings, purchasing of all supplies, direction of employes, etc., and be performed by a business superintendent. The professional work could be divided into departments of medicine, surgery, gynecology, obstetrics, children's diseases, etc., each department being in charge of one or more of the recognized specialists in the several branches, these chiefs of departments to formulate the policy of each department and be responsible to the board of trustees for all matters of a professional character pertaining to their respective departments.

There should be a sufficient number of house medical officers and nurses to properly perform the necessary duties.

To assist the chiefs of departments and attend to urgent calls, a resident physician and a resident surgeon should be appointed; also a dispensary service ought to be established for the treatment of minor ailments and the selection of cases for the hospital. This to be divided into departments corresponding to those in the hospital.

Members of the board of trustees, chiefs of departments and house medical officers should serve without pay. The superintendent, nurses and employes should receive stipulated salaries. Minor details regarding the work are unimportant here.

Advantages to be gained are, the hospital receives the benefit of good business men constituting the board of trustees, who should fill all positions on the merits of the individual applicant. The business of the hospital will be looked after by a business man. The professional men would be relieved from the business cares pertaining to the hospital and each branch would be cared for by a man skilled in that department. In other words, this plan of organization would secure a combination of brains and energy of specially trained men as directors. Consequently one must anticipate the best results, as are obtained in the commercial world by similar plans of organization. The expense of operating a hospital on this basis is no greater than on any other basis, save a better service is obtained which of necessity must cost a little more.

The following table gives relative cost of several hospitals:

	Number of Patients.	Days Treated.	Cost per Day.	Cost per Year.
Boston City*	8,503	149,313	\$2.11	\$445,291
Cincinnati	6,000	152,205	96	143,000
City Hospital, St. Louis	8,763	186,880	4919	93,480
St. Louis City and Female Hospital. .	11,540	261,340	59	154,172

* The Boston City Hospital is a partially endowed institution and liberally supplied with funds. The \$445,291 includes expenses of all subdepartments. On the hospital proper \$317,436.13 was spent. Income from pay patients, \$62,523.63. Net cost to city, \$252,430.80.

The Boston and Cincinnati hospitals are in charge of a board of trustees. Here the highest type of service is rendered at a somewhat higher price than is

paid in St. Louis. Regarding the relative difference in the character of work, those familiar with the several institutions may judge. It is sufficient to say a change in the management of the St. Louis City Hospital is urgently desired by all. For this change no more desirable time will ever present itself.

ETIOLOGY OF ACNE VULGARIS.

It is not only possible but highly probable that the cause of comedo formation and acne vulgaris is to be laid at the door of a specific bacillus and not to the mysterious deleterious effects of pies, cakes, candies, highly spiced foods, etc.

Unna, Engman and Hodare described in 1893 and 1894 a small bacillus which they had observed in the center of the comedo and in pus from acne lesions which they thought was the specific cause of acne. Later in 1894 Sabouraud described the same bacillus in his researches upon seborrhea, various forms of which he attributed to its influence, and named it the micro-bacillus of seborrhea. He also found the organism in acne lesions, but asserted it merely opened the door, as it were, to the invasion of the staphylococcus, the cause of the pus formation. No one succeeded in obtaining pus cultures of these bacilli until Gilchrist began his researches in 1899, when he found pure cultures that proved fatal to guinea-pigs in about a week. This was, however, preliminary work to later researches, the report of which has just appeared in the *Journal of Cutaneous Diseases* for March. Here his findings are almost convincing. He obtained sixty two pure cultures of the acne bacillus from acne nodules; found the organism in the smears and in the tissues, and demonstrated their specific action in every way except by inoculation experiments. He does not, however, deny that there may be predisposing etiologic factors, as age, diet, etc., though, he sagely adds, diet and hygiene will not cure the disease. An observation every investigator can but confirm. He suggests that the anemia, constipation, dyspepsia, so often seen in acne, may be due to the absorption of toxins produced by the specific bacilli. Many of us have treated acne patients who presented these general symptoms, by local antiseptics and surgical means, at the same time giving tonics, diet, etc. Their subsequent improvement is attributed to the general treatment, but is, in the light of these recent researches, more probably due to the local treatment with the consequent relief from toxemia.

Acne bacilli are very pathogenic to animals, a point much in favor of Gilchrist's idea.

Never yet has the writer seen a patient with acne vulgaris in the least benefited by diet or internal medicine alone; on the contrary, he has seen the disease spread rapidly under the most rigid dietary and tonic treatment. Local treatment, until we have a specific serum, is now, from Gilchrist's investigations, demonstrated to be of the first importance.

Even those who have held to the idea of the internal origin of acne treat their patients by applying local germicidal applications, yet in spite of this empirical knowledge they will attribute the recurrence of an outbreak to a possible dietary indiscretion. This certainly does not seem rational when the patient has at the same time neglected the local applications.

The work of Gilchrist confirms clinical experience and leads us to hope for valuable additional knowledge of the disease in the near future.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

The Widal Reaction in a Case of Liver Abscess.—MEGELE (*Muenchener Medicinische Wochenschrift*, April 7, 1903).—The great variety of symptoms which may be present in typhoid fever frequently renders difficult an absolute diagnosis. The cardinal symptoms are not often found in that order which enables one to exclude the possibility of other diseases. The Ehrlich Diazo reaction has not merited the confidence which was placed in it in the beginning. Puncture of the spleen is not without danger, and, therefore, cannot be generally employed. Obtaining the pure cultures from the stool requires much time, and is not practical for clinical purposes. Investigations concerning the direct isolation of the typhoid bacilli from the blood are as yet not conclusive.

The Widal reaction, though not infallible, is by far the most reliable diagnostic aid at this time. From time to time cases are reported in which the Widal reaction has given positive results, though typhoid was not present. In the beginning many of these results were due to improper technique. Investigations upon normal blood serum have shown that dilutions under 1:40 should not be employed in making the Widal reaction. The normal serum may give positive results in 25 per cent. of cases with a dilution of 1:10, in 7 per cent. of cases with a dilution of 1:20, etc.

The author reports a case in which, though the Widal ultimately gave positive results, the autopsy revealed the presence of a liver abscess. The illness began with articular rheumatism; the symptoms of this affection were promptly relieved; shortly afterwards the patient manifested symptoms of typhoid, the typical fever curve, heavily coated tongue, etc. A positive Widal reaction led to the diagnosis of typhoid fever. Soon after this, however, the fever curve became very irregular, and the patient presented a septic appearance. A few days before his death he became icteric.

The post-mortem revealed a large abscess of the liver, but no evidence whatever of typhoid fever existing or having existed. Bacteriological examinations of various secretions and organs were made, but the typhoid bacilli were not found.

Spontaneous Disruption of a Urinary Calculus.—GOERL (*Muenchener Medicinische Wochenschrift*, No. 14, 1903) reports a case of stone in the bladder in which he was able, through the use of the cystoscope, to demonstrate its spontaneous disruption. The stone was observed and reckoned at 2 cm. in diameter. The patient weighed at this time two hundred and fifteen pounds. He was placed on a rigid diet with a view to reducing his weight, and was advised to take two liters of lithia water per day. Within five months he weighed but one hundred and sixty-five pounds, and all subjective symptoms of stone had disappeared. The cystoscopic examination now revealed four small segments of the former stone. These passed spontaneously. Though this result was not anticipated, the author believes the change of diet largely responsible for it through the reduction in the urine of stone-forming elements.

Direct Percussion of the Epigastrium a Diagnostic Aid in Ulcer of the Stomach.—MENDEL (*Muenchener Medicinische Wochenschrift*, No. 13, 1903).—In view

of the fact that our means of diagnosis in ulcer of the stomach have in no sense been perfected, the author believes that every possible means should be employed. He employs and recommends direct percussion over the epigastrium with the percussion hammer. The patient is placed in such a position as will cause the abdominal walls to be tense; light, quick taps over the epigastrium will reveal, in the case of ulcer, a small circumscribed area of pain, depending upon the position of the ulcer. The use of the hammer does not elicit pain even in the most nervous patients. Though painful areas may be found, however, in carcinoma, cholelithiasis, etc., the zones are not so circumscribed, and the symptoms are such as to make a differential diagnosis possible.

Atony of the Stomach and Its Relation to the Succussion Sound and to Gastrectasia.—CONHEIM (*Berliner Klinischer Wochenschrift*, April 6, 1903) reviews the various opinions and theories recently expressed by authorities concerning the gastric succussion sound (Plaetschergeransch) and its significance. He assumes a position between Elsner and Spiller. Elsner considers this phenomenon nothing more than an accompanying symptom of gastroptosis in cases of relaxed abdomen; while Spiller considers it a pathognomonic symptom of atony of the musculatur of the stomach, especially when present a considerable time after the ingestion of food. He also maintains that there is no gastroptosis without atony. The author does not consider the succussion sound a symptom of atony; he concedes, however, that in the absence of relaxed abdomen it is an indication of Spiller's *asthenia universalis congenita*, the so-called *habitus enteroptoticus*. It may occur in perfectly normal individuals in whom the predisposition to *neurasthenia gastrica* exists. The succussion sound is, so to say, a signal of warning. Any one presenting this symptom is always in danger of developing a nervous, functional, chronic stomach trouble. It requires only some exciting cause to call it forth, such as phthisis, masturbation, labor, poor hygienic surroundings, grief, etc., etc.

These nervous, functional gastric disturbances never occur in obese individuals. Atony or nervous dyspepsia is, in contradistinction to ectasia, which depends upon local processes, a constitutional trouble with few exceptions. The succussion sound accompanies every case of atony, but there is not necessarily atony in every case in which the succussion sound occurs.

A Case of Pneumonia Due to Gonococci.—BRESSEL (*Muenchener Medicinische Wochenschrift*, March 31, 1903).—A patient suffering from gonorrhea suddenly developed pneumonia, with all of its typical symptoms. The sputum contained intracellular diplococci in large numbers. Cultures from the blood showed the presence of diplococci which were identical in every way with the gonococcus. The author thinks the case unquestionably one of *gonococcus pneumonia*.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

The Ether-Chloroform Narcosis.—BRAUN (*Zentralblatt fuer Chirurgie*, April 4, 1903).—It is possible to maintain a good ether narcosis by the drop method and the use of an ordinary chloroform mask, it being necessary in some instances to use a few drops of chloroform now and then, too. It is always necessary in such cases to give a dose of morphine first. In this way, and in this one alone, it is possible to reap the advantages of both drugs as well as to obvi-

ate the ill-effects of the two. However easy it is to keep the ordinary individual under the influence of ether alone drop by drop, it is still true that now and then one is encountered who is so full of resistance that chloroform alone is of avail. It is only when a large amount of ether is used in concentrated form that respiratory symptoms are noticed; hence the value of the method proposed herein. An interrupted narcosis, of any sort whatever, is wrong in principle; hence several of the older instruments must be discarded as worse than useless. When it is seen that a patient cannot be kept under ether by the drop method on a chloroform mask, then one is not to increase the concentration of the ether (ether mask), but to add a little chloroform, drop by drop.

Abscess of the Liver.—GIRARD (*Journal of the Association of Military Surgeons*, March, 1903).—The following interesting report of cases is taken from the clinical histories of 18,000 hospital cases of various kinds. These were treated at the Presidio between 1899 and 1902, and furnish interesting reading. There are in all twelve cases of abscess, of which eight were caused by the amœba, while in four the etiological factor could not be definitely traced. In four of these twelve cases a diagnosis was made, and the four were cured by operation, while the true condition was discovered in the other eight at the autopsy. Of the four operated cases, but one was due to the amœba. All of the amœbic cases were decidedly icteric, while in none of them was pain in the liver region a prominent symptom, as one might have expected. In conclusion, the writer states that his hospital experience with so many cases teaches that abscess does not complicate many amœbic cases; that the non-amœbic cases present much more severity than the others; and that operations for abscess will usually prove successful unless the focii be multiple.

Multiple Myelomata of the Bones.—VIGNARD and GALLAVARDIN (*Revue de Chirurgie*, No. 1, 1903).—To come under this definition these tumors must be primary in the bones as well as multiple. There have been many growths described under this name which do not properly belong in this class; these the authors take pains to classify in detail. A characteristic of this form of tumor is the presence in the urine of a body discovered by Bence Jones in 1845, and known as an albumose. The author had two cases, which are described in detail and illustrated with beautiful histological cuts; but, unfortunately, he neglected to make the test for the substance in the urine. The seat of predilection for these growths is the vertebræ, ribs and sternum, or the bones which have a red marrow, though from the appearance of the tumors it is impossible to tell with certainty which is primary and which secondary. A characteristic feature of the malady is the never-failing absence of secondary growths in the viscera. Only five of these interesting cases have ever been reported, and in but two has it been possible to make a diagnosis before the death of the patient.

Pyogenic Action of the Pneumococcus.—MEYER (*Mittheilungen aus der Grenzgebieten der Medizin und Chirurgie*, Band xi, Heft 1).—Here are reported a number of cases to show that the pneumococcus produces pus in much the same way as do the various micro-organisms which are so much more commonly met with in this connection. It would seem, further, that almost any part of the body may be the seat of the pathologic process in question at the present time. The first case is that of a woman who presented the various well-known manifestations of a suppurative trouble in the neck. At the operation the pus was seen to lie within the capsule of the parotid gland, and on examination it was found to be a pure culture of pneumococcus. A second case of the same kind is reported, as well as two involving the lymphatic nodes of the retroperitoneal space in one instance, and of the axilla in another. Next there are given the details of three cases in which the regions surrounding the teeth were affected, the char-

acteristic organism being found in each instance. Several patients in whom the manifestation was one of periostitis or of arthritis are next detailed, to complete the surprising picture. Four similar cases of peritonitis are added to the list; all were operated upon, and of the number but one died; certainly a good record. The author concludes this most interesting addition to our recent surgical pathology with certain general conclusions, as follows: The course of this or any other infectious disease depends upon the resistance of the patient as well as the virulence of the bacterium, rather than upon the special kind of germ present.

Transplantation of Omentum in the Operative Treatment of Intestinal Defects.—E. J. SENN (*Journal of the American Medical Association*, April 18, 1903).—Reference is made to the fact that the omentum plays the part of a protector of the peritoneum, it having been proven that more rabbits die after injection of septic matter into the cavity when the omentum has been removed, than do if that organ is not disturbed. Reasons for using the omentum for a patch are: Condition of the bowel wall which precludes suture, the danger of producing a narrowing, condition of the patient at the time of operation, or adhesions so extensive as to make an enterectomy impossible. Senn operated on a case of appendicitis associated with necrosis of the cecum which was so widespread as to preclude suture of that viscus, so he patched the wall with omentum, with the result that his patient recovered and suffered no fecal fistula. This success led him to make six somewhat similar experiments on dogs, all of which resulted unfavorably. Still he does not consider this a fair criterion on account of the fact that the omentum of the dog and that of man are by no means similar. Senn formulates several rules, among which are: That the omentum should not be used alone in the manner under discussion unless there be adequate drainage down to the site; further, the peristalsis of the small intestine must be interfered by sewing the viscus to the wall if it is to be patched; the cecum furnishes the most favorable site for such a patch.

Germes in the Air of the Operating Room.—TUFFIER (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 12).—There are two distinct ways of ridding the air of germs, viz.: one physical and the other chemical. The former is by saturating the air with steam, in order that the weight of the organisms may thus be aided in precipitating them to the floor. The other method is by saturating the air with hydrogen peroxide. Tuffier is, it must be said to his credit, a firm adherent to the physical method. He had a long series of experiments made in his operating room, and came to interesting and valuable conclusions. He found that the physical method was decidedly more efficacious than the other; further, the number of occupants of the room had a decided influence, as did the length of time the room had been used or kept closed. Petri dishes were exposed in the room under the greatest variety of circumstances, but the results obtained are too complex to be done justice to in a review. The subject is one that must interest every surgeon, and I am sure that a perusal of the original will compensate the reader for the time spent.

The Chemistry of the Oxygen-Chloroform Narcosis.—ROTH (*Zentralblatt fuer Chirurgie*, No. 12, 1903).—In an abstract of Lauenstein's article from this same journal it was noted that the Hamburg surgeon had ceased to use the apparatus invented by Dr. Roth for the reason that certain rivals of the doctor claimed that a decomposition of the chloroform took place in his device. In the article now at hand it is interesting to note that Roth contradicts all such statements, and advances as proof of his position the results of tests which have been made for him by chemists. It is interesting to await the outcome of the matter, since it bids fair to have an important influence on the oxygen-chloroform question.

The Diagnosis of Intestinal Injury Following Abdominal Contusion.—LE CONTE (*Annals of Surgery*, April, 1903).—This is a most interesting and instructive exposition of the subject founded upon the author's own experience. The author goes most fully into the matter, considering the subject from all standpoints—the different kinds of injury, the different conditions under which they may be received, and the various effects which each may have upon the patient. He lays great weight upon the facial expression as a diagnostic point, having never seen one in which the *facies abdominalis* was present without serious intestinal lesion. Pain, shock and tenderness have all deceived the author, however, so they cannot be regarded as reliable in all cases. Great distention, as well as vomiting coming on after shock has disappeared, must always be regarded as serious. One must always wait for a reaction to take place before a diagnosis can be made, but no diagnostic sign is infallible.

A Contribution to the Pathology of Intermittent Hydro-Nephrosis.—BAZY (*Revue de Chirurgie*, No. 1, 1903).—This interesting article, which reports a number of cases, has its chief value in the illustrations which it contains, these being seventy-three in number, and portraying more vividly than any description can do the different anatomical conditions which lead to hydro-nephrosis by interference with the urinary outflow.

The author has relieved the condition by a most delicate plastic operation upon the pelvis of the kidney, doing something which can be compared to the operation of pyloroplasty. This can surely be considered in keeping with the ideas of advanced modern surgery, especially when one considers how kidneys have been sacrificed in consequence of this condition before the surgeon has even considered the idea of a conservative plastic.

In closing the author avers that an intermittent hydro-nephrosis always has for its cause a congenital malformation of the pelvis of the kidney or one of the accessory portion of the ureter.

Resection of the Colon at Two Sitzings.—GOESCHEL (*Beitraege zur Klinische Chirurgie*, Band xxxvii, Heft 1 and 2).—The author gives the method of Mikulicz his unqualified approval, relating at the same time several successful cases, and making some interesting observations in this connection. He does not cut away the tumor at the first operation, as does the originator of the method, and sees in his results no indication for doing so. He prefers to wait two days after the portion to be resected has been sewn outside the abdomen. After removal of the two gangrenous portions the patient is placed in a permanent bath, and thus all skin trouble (escaping fecal matter) obviated. The author uses the crushing forceps to re-establish a new opening between the two stumps which have been placed parallel at the first operation, and then closes the artificial anus as soon as possible. This last act is done without opening the peritoneum at all. A hernia always ensues at the site; still it is certainly better to have this than to risk death from the other methods.

Report of Cases of Bolo Wounds.—FISHER (*Journal of the Association of Military Surgeons*, No. 1, 1903).—It is interesting in this day of small-caliber bullets and humane warfare to learn of the terrible punishment which can be inflicted by the barbaric weapon of the Phillipines. The most interesting of the eight cases described is that of a soldier who was attacked while walking for exercise one evening. One blow of the long knife severed the left arm, which had been thrown up to shield the head, and cleft the face, opening up the cranium at the same time; another hacked off the acromium process and the greater part of the deltoid muscle, while a third made a deep wound in the thigh. In spite of all this the patient, who must have been possessed of extraordinary resistive powers, was making a satisfactory convalescence, when, on the twelfth day, the symptoms of tetanus appeared; to this disease he succumbed.

A Patient in Whom the Knee-Joint Was Resected Eighteen Years Ago.—LUCAS-CHAMPIONNIERE (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 13).—This woman had been in a very bad state when the operation was done; this refers to the general condition as well as to the knee. This, later, had undergone a pathological dislocation backward, there being in addition an ankylosis in this malposition. At present the woman seems in perfect health and walks without a support, though with some stiffness, as might be expected. The author has done one hundred and twenty of these resections without a death, five months after the operation being the date at which the earliest of his cases has succumbed.

Plastic Surgery on the Face.—SCHLOFFER (*Zentralblatt fuer Chirurgie*, March 28, 1903).—The operation herein proposed and one carried out at the clinic of Prof. Woelfler in Prague, is certainly ingenious, to say the least. It consists in a method of restoring the continuity of the face after a large portion of the upper lip and contiguous tissues of one side have been removed. The new idea is to cut the nose from its attachments and to retract the point upward between the eyes while the soft tissues from the opposite side of the face are loosened and drawn across to fill the defect, after which the nose is brought back down to its original bed and sutured in place.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Treatment of Acute Infectious Diseases.—J. WERNITZ (*Therap. Monatsh.*, 1903, No. 2).—Last year W. reported a number of cases of puerperal sepsis favorably influenced by his method of treatment. He now extends this method to all infectious diseases. In the main it consists in the administration of great quantities of water. Thereby he not only prevents the loss of water by means of evaporation due to the pyrexia and the resulting suffering from thirst, but he also stimulates all the excretory functions, and hastens the elimination not only of the toxins, but also of the formed elements of the virus. Moreover, the resulting temporary hydremia brings with it a corresponding dilution of the toxins circulating in the blood; the cells of the body are thus less violently injured by the toxins, and are more readily enabled to produce antitoxins. He has found Hegar's method most useful. A moderately long rectal tube is inserted as high as is possible without too great discomfort, and is attached to a fountain syringe. The water is allowed to flow into the rectum under gentle pressure; when the desire to evacuate the rectum becomes imperative, the irrigator is lowered and the rectal contents allowed to flow back into it. The irrigator is then raised again and the procedure repeated. When the contents of the irrigator become too greatly contaminated, they are replaced by fresh water. After an hour's interval the enema is repeated. The rectum, now thoroughly clean, absorbs the water rapidly. Three or four such enemas are given daily. The pulse becomes fuller, the dry mucous membranes moist, the general appearance improves, headache and delirium grow less. With the second or third enema sweating sets in and grows more profuse with each injection. The temperature falls, at first only during the sweating, later permanently. The urine rises to five or six litres daily.

The number of enemas varies according to the nature of the case. In a severe septic fever ten enemas were given in twenty-four hours, and a marked improve-

ment noted. In less grave conditions fewer enemata suffice. According to W.'s experience there is no antipyretic with which we are able to depress the temperature so certainly and so safely as with this method. Complications or ill after-effects were never seen.

A New Method of Massage.—HOFMEISTER (*Centralbl. f. d. ges. Therapie*, 1903, No. 3; *Beitr. z. Klin. Chir.*, Vol. 36, No. 2).—The method, which is capable often of replacing manual massage, consists in immersing rhythmically the extremity to be massaged into a deep vessel filled with mercury. For this purpose a cylindrical vessel, 50 cm. high and 12–15 cm. in diameter, half full of mercury is used. The latter is covered by a layer of dilute alcohol to prevent evaporation. The pressure of the mercury upon the skin becomes greater the more deeply the limb is immersed, and finally causes a complete cessation of the arterial blood supply, so that the hand or foot becomes entirely anemic. Accordingly if the extremity be alternately immersed and withdrawn, a condition of anemia and of ample blood supply alternates, thus constituting a true massage.

By this means it is also possible to cause edemas rapidly to disappear; in one case a diminution of the circumference of the wrist amounting to several centimeters was noted after a single mercurial massage lasting half an hour.

Good results are also obtained in mobilizing stiff phalanges. If the hand is inserted into the mercury with the fingers slightly flexed, the pressure of the liquid tends to flex the fingers still more and so to mobilize them.

The mercury massage is a very equable one, causes no pain and has no unpleasant effects. Even where there were open wounds no mercurial intoxication was produced. If one desires, however, to avoid the possibility of such a complication, the wound may be covered with gutta serena tissue or adhesive plaster. The method is useful also to prevent stiffness after phlegmons or paronychia, since it can be used even before the wound has healed.

Its only drawback is its expense: three litres of mercury at \$20 per litre are required.

Selected Prescriptions.—(*Centralbl. f. d. ges. Therapie*, 1903, No. 3).

For gout:

℞ Inf. fol. digital.....	1.0 ad 200.0
Kal. nitr.....	4.0
Tr. colchic.....	5.0
Syr. simpl.....	30.0

D. S.—One tablespoonful every two hours.

For flatulence:

1. ℞ Fol. menth. piper.,	
Rhiz. calami.....	aa 30.0
Fruet. juniperi.....	15.0
Fol. senn.....	12.0

M. f. spec. D. S.—Use for an infusion.

2. ℞ Fol. menth. piper.,	
Fol. melissæ,	
Rad. valerian.....	aa 15.0
Fruet. anis,	
Fruet. coriandri.....	aa 5.0

M. f. spec. D. S.—Use as an infusion.

3. ℞ Magnes ust.....	12.0
Pulv. rad. rhei,	
Pulv. rad. ringit.....	aa 3.0

M. f. pulv. D. S.—Take one teaspoonful several times daily.

For catarrh of the respiratory passages :

1. R Liq. ammon. acet..... 20.0
 Aq. cinnamomi.....130.0
 Syr. simpl..... 30.0
 D. S.—One tablespoonful every two hours.
2. R Inf. flor. sambuci..... 15.0 ad 150.0
 Liq. ammon. acet.,
 Syr. simpl.....aa 25.0
 D. S.—One tablespoonful every two hours.

For acne vulgaris :

- R Resorcini resublim..... 1.0
 Mercur. bichlor. corros..... 0.1
 Past. zinc.....40.0
 D. S.—Spread over affected area every evening.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

The Intracellular Toxins of Some of the Pathogenic Bacteria.—V. C. VAUGHAN (*Journal Amer. Med. Association*, March 28, 1903) gives a preliminary account of the studies made on intracellular bacterial toxins in his laboratory. The paper is of great interest inasmuch as he established that by certain very energetic methods from these bacteria toxic substances may be obtained. The possibility that these substances which artificially can only be produced by the destruction of organic material should be liable to be formed in the infected animal organism, is only an assumption. That they should be the intrinsic causes of the intoxications in some certainly infectious diseases, the real mode of action of which is as yet unknown to us, is possible, but not proven. If 40 to 50 mg. of a toxic body prepared from anthrax bacilli are necessary to kill a guinea-pig of 300 grams, it can certainly not be the toxic body which kills another infected animal in twelve to sixteen hours, in which the weight of the bacilli developed in its body cannot be computed to amount to more than 10 to 20 mg. The investigations of Vaughan are very interesting and also important, but they will not, as yet, throw any light on obscure infectious processes, nor be able to influence our views on the biologic relations of infecting bacterium and infected organism. Pathognomonic lesions (except the pustule) we know none in anthrax.

The name toxin is generally accepted for substances in their essential nature absolutely different from the toxins of Vaughan.

The Albumoses, Their Clinical Significance, etc.—THOS. J. YARROW (*American Medicine*, March 21, 1903) expatiates in this article on the importance of the demonstration of albumoses in the urine, in cases where a suppurative process is suspected. He details the method of this demonstration (separation from other proteids after the well-known Hofmeister and Salkowski and Devoto methods, salicyl-sulfonic acid, etc.) and then relates a series of cases in which the presence of albumoses led to the discovery of pus, intra or post-vitam. It is certain that the method indicates suppuration to a much finer degree than the counting of the leucocytes, although it must be doubted that in cases of encapsulated abscesses it would be superior to it. Whether our knowledge of albumoses justifies us to

consider everything demonstrable by the method followed is doubtful. On the other side, the author forgot a very important point, namely, that albumoses (real albumoses, no Bence Jones) appear very frequently in the urine without suppuration being present. The painstaking investigations on the presence of albumoses in the urine of tuberculous and other patients during the period of fever, made by Penzoldt and many others, would at least suggest a great carefulness in the use of a positive albumose-reaction for the diagnosis of pus.

About the White Blood-Corpuscles in Malaria.—(*Zeitschr. fuer Hyg. u. Infect. Krankh.*, Vol. 42, Heft 3.)—Although it has long been known that in malaria the number and relative proportions of the white cells of the blood show peculiar changes which usually are designated as absence of leucocytosis and as an absolute increase of the large mononuclear cells, the subject has never been systematically studied. The paper of *Rudolf Poech* is an exceedingly welcome contribution to it, as it shows that the negative findings (as to parasites) in supposed malarial blood can be conclusively confirmed by a careful investigation of the white cells. His conclusions are so important that they will be given in full. The researches were made on material that in regard to variety and copiousness cannot be surpassed, and they were made in intimate touch with the basal teachings of *Ehrlich*.

In the beginning of the attack in tertian and quartan fever sometimes a moderate polynuclear leucocytosis of transitory character occurs. Otherwise in no stage and in no form of malaria leucocytosis is seen; at the height of the fever the number of leucocytes is decreased frequently in tertian and quartan fever, sometimes in tropical. Frequently leucopenia obtains during the whole course of the disease.

During the fever the mononuclear cells are decreased in tertian and quartan forms; during the decline of the fever in all forms of malaria a relative and absolute increase of the large mononuclear forms is observed, which can during the course of the infection increase and can continue during convalescence. Thus it can point to a cured infection.

During the attack the eosinophilous cells are mostly decreased, otherwise they are found in normal numbers.

The Fight Against Typhoid Fever.—(*Veroeffentl. a. d. Gebiete d. Militaer-sanitaetswesens*, Berlin, 1903, Heft 21.)—Following out the experiences so far made in the fight against cholera and malaria, and the results obtained by a strict obedience to the conclusions drawn from these experiences, R. Koch in this paper insists on the truth that the same principles obtain for the extermination of typhoid, dysentery, and also for diphtheria and tuberculosis. In one word, his advice is the absolute isolation of the patient and the destruction of every infectious material emanating from him. Of course against this advice of Koch again will be urged the old objection that the bacterium is only one of the causes of the disease; that the bacterium is powerless if the constitutional resistance of the individual is sufficient. Unfortunately, it is always forgotten that this resistance is very low in the majority, and that in our life the stimuli for the lowering of a normal resistance are so many that the bacterium will most frequently find a receptive soil. The age when our hygienic progress will have brought the total of mankind to a degree of resistance beyond the power of the bacterium, we cannot foresee. Would it, under these conditions, not be better to take to heart the practical suggestions of the great German, which certainly strike the fatal blow to that factor that alone can make an enfeebled organism a typhoid, dysentery or tuberculosis patient?

Influenza in Its Surgical Aspect.—A. PEREZ (*Deutsche Zeitschr. f. Chirurgie*, Vol. 56, Nos. 1-3).—In an extensive series of experiments the author investi-

gated the pathologic lesions caused by the bacillus of Pfeiffer in the animal organism. The work is mentioned here on account of the very important finding that by this bacterium artificially an "idiopathic" peritonitis (local or general) can be produced. Cases of primary influenza-peritonitis in man have been reported, but their characterization as such has met with much doubt and criticism. With these experimental evidences before us, the statements of several trustworthy writers appear fully justified.

Trypanosomiasis on the Congo.—PATRICK MANSON (*Journal of Tropical Medicine*, London, Vol. vi, No. 6).—The study of tropical diseases has added through this paper a very interesting new etiologic factor to the already long list. For the first time some cases of trypanosoma-infection are here reported occurring in human beings. The part that these flagellates play in several animal diseases (tsetse, surra, mal de caderas and dourine) has been widely studied during the last five years, but so far the human race seemed to be immune from them. The clinical symptoms are as yet not very well-defined, comprising fever, anemia, and often delirium; but what seems to be certain is that in trypanosomiasis, too, an insect carries the infection, and it is probable that a tick (*Argas moubata*) is the culprit. A tick disease (with immunity after recovery) was long known in the Portuguese South Africa, and in the cases of Manson, too, the bite of an insect, probably a tick, forms the starting point of the disease. Further study of this very interesting disease is anxiously expected for practical and theoretical reasons.

The Antitoxin Treatment of Tetanus.—V. SCHUCKMANN (*Deutsche Medicin. Wochenschr.*, 1903, No. 10), instigated by a fatal case of tetanus that was treated with antitoxin according to the directions given by Behring, and that fully satisfied all the restrictions stated by the latter for the successful use of antitoxin, compares the reports of forty cases of tetanus treated with it. From his tables it appears that the number of recoveries increased with the time which elapsed between the first symptoms and the administration of the serum. This, of course, can only mean that the greater number of cases recovered are those that would have recovered anyhow. Of sixteen cases injected on the first day, none recovered; of ten cases injected upon the fifth day, eight recovered. In spite of Behring's continued assertions that antitoxin, if employed according to his directions, will reduce the mortality to fifteen per cent., this has nowhere been verified; and if the nature of the lesions is considered, and the character of the action between toxin and antitoxin, this cannot be otherwise. Antitoxin is the specific prophylactic, and in developed tetanus only prevents further intoxication.

Further Contribution to the Etiology and Specific Cure of Hay-Fever.—DUNBAR, Hamburg (*Deutsche Medicin. Wochenschr.*, 1903, No. 9), publishes this fascinating account of his studies on hay fever, after some preliminary communications have preceded. He has found that the etiologic factor of hay fever is contained in pollen cells of graminaceous plants, and he has found that all of the species and genera of grasses act alike in this respect on susceptible persons. The specific substance is present in the starch-rodlets contained in the pollen cells, and is most likely of albuminoid nature. It is insoluble in alcohol and ether, but soluble in water and salt solution. Extracts of such pollen cells cause in persons susceptible to hay fever typical and characteristic pathologic processes, and even if small doses are applied the symptoms reach, now and then, a dangerous degree of severity. For persons not subject to hay-fever the extract is absolutely without effect. With such extracts Dunbar immunized animals (rabbits), and in the course of time obtained a serum of marked effect. Mixed with the extract and instilled into the eye (this method was used with

good result for all experiments), no effect is seen. The experiments were repeated in a number of cases, always with the same result. Toxin in one eye and toxin and antitoxin in the other eye caused in the former conjunctivitis, while the other eye remained unaffected. An acute attack of conjunctivitis caused by pollen extract could be cured within twenty minutes by the instillation of a drop of the serum into the eye in intervals of five minutes. The pollen cells of other plants were found to have no effect. The paper reminds one very much of the so-called ricin-immunity, and is one of the most important contributions that medicine has received lately.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Impregnation.—E. TOFF (*Centralbl. fuer Gyn.*, No. 14, 1903).—In this article the author exposes his somewhat unique views on the influence of sexual intercourse and pregnancy upon woman. It is well known that the vaginal mucosa possesses a considerable resorptive power for medicaments. It is permissible to assume that such resorption will be more effective towards the spermatic fluid, in view of the active motility of the spermatozoa. The substances absorbed from the sperma are by no means indifferent to the female organism. The author is inclined to believe that all the differences commonly observed in the married (non-pregnant) woman as compared with the virgin, can be traced back to this influence. Anemic and delicate girls often become, after marriage, plethoric and robust, symptoms of nervousness disappear, shyness and timidity change into self-reliance and independence. The writer finds the proof for his theory in the harmful effect of Malthusian cohabitation in which the salutary resorption of spermatic fluid is prevented.

If pregnancy occurs the woman is not "a mere receptacle for the impregnated ovum," but stands now under the influence of the fetus. There is a continual resorption of substances produced by the growing fetus, which owes half of its vitality to the father. We may assume that in this way also during pregnancy a pronounced influence is exerted by the paternal organism upon the maternal system.

From these considerations Toff concludes that both by means of cohabitation and pregnancy the female system is thoroughly impregnated with products of the male organism. As regards the duration of this impregnation and the permanency of such effects no positive assertion can be made with respect to sexual intercourse; it is, however, obvious for pregnancy. A woman, married a second time, may give birth to a child resembling her first husband, if she had a child with him. A similar observation regarding animals is well known especially among stock raisers and horse breeders.

It seems permissible furthermore to deduce that the female body is in need of these male body fluids, and that their absence in old maids may be responsible for some of the ailings characteristic of them.

All these conjectures are, of course, only applicable for the resorption of the spermatic fluid of a vigorous and healthy man. Is he a weak, debilitated individual, or sick, suffering from syphilis or tuberculosis, then the resorbed substances turn into deleterious toxines that soon show their harmful effect upon the woman's organism.

The Age of First Menstruation at Pole and Equator.—GEORGE J. ENGELMANN (*Amer. Gynec.*, March, 1903).—The author, to whom we owe many fundamental

contributions to the question of menstruation, fecundity and sterility of the American women, proves in this elaborate publication the error of previous teachings of precocious puberty at the equator and retarded development at the pole. At both extremities of the globe races are found with early and others with late development. An average of all the various statistical observations among the different races from pole to equator as collected by the author, tend to prove that puberty comes at 14.6 in the Arctic regions, nearer 15 in the tropics, later still, at 15.5, in the temperate zone of Europe. In the temperate zone of the New World development takes place at an earlier age, namely at 14.

At present only these facts can be presented, and only further ethnological and physiological studies can establish the causes for these apparently contradictory conditions.

The Influence of Acute Infectious Diseases Upon the Uterus.—CHR. STRAVOSKIADIS (*Monatsschr. f. Geb. und Gyn.*, February, 1903).—This is an article of unusual interest and must be regarded as a prominent contribution to our knowledge of spontaneous interruption of pregnancy or the occurrence of metrorrhagia during the course of an acute infectious disease. The writer examined bacteriologically and histologically the uteri of twenty-four women who had died from an acute infectious disease, five of whom were puerperæ. In sixteen of these cases the investigations yielded a positive result. The author concludes as follows: During the course of acute infectious diseases there occur quite often inflammations of the endometrium, varying in intensity, but usually causing hemorrhage. These inflammations are produced by specific bacteria, as a rule, identical with the active agent of the infectious disease. In cases of complication due to a secondary infection with another bacterium, the latter may be found as the provocator of the endometritis. The infection is carried to the uterus through the circulatory system, and it seems that during pregnancy and the puerperium the conditions are specially favorable for such a propagation. It is by no means rare that premature interruption of pregnancy during the course of an acute infectious disease is due to an acute endometritis produced by an hematogenic infection of the uterine lining.

On the Causes of Tubal Implantation of the Ovum.—E. OPITZ (*Zeitschr. fuer Geb. und Gyn.*, vol. xlviii, part 1).—Manifold are the causes supposed to lead to the pathological implantation of the impregnated ovum in the tube. We find among them abnormal length of the tubes, some mechanical obstruction of the lumen, either by compression from without or blocking by a polypus. In a few rare instances the ovum seems to have wandered into a diverticulum. Clinical observations have always pointed to the fact that the abnormal nidation of the ovum in the tube must in some way be connected with inflammatory processes that had occurred either in the tube or in its immediate neighborhood. It has been supposed that peritonitic adhesions may compress the tube, that inflammatory thickening of the tubal wall may interfere with the normal peristaltic contractions of the tube, that a previous salpingitis has led to a loss of the cilia of the tubal epithelial lining. But most of these hypotheses have been found deficient in the majority of cases of tubal pregnancy. Opitz has examined the tubes in twenty-three cases of early tubal pregnancy. In contradistinction to the practice of almost all the preceding investigators he directed his attention, for certain reasons, entirely to the portions of the pregnant tubes lying between the place of implantation of the ovum and the uterus. He divided these portions into serial sections. In all cases changes were detected due to inflammatory processes. The most noteworthy of these changes were found in the mucous membrane, which was abnormal in every case. The stroma of the folds of the tubal lining was firm from the development of fibrous connective tissue. Most of these folds were lower and thicker than normal, their ends often being club-

shaped. The most important change, however, that has been found, was a broad, firm union between neighboring folds. The number and character of these adhesions varied considerably in the same tube, as well as in different tubes. The study of these tubes in serial sections demonstrated that, as a consequence of these adhesions, branches of the tubal lumen are formed that often end blindly. Opitz has apparently found through his most painstaking investigations the most common cause for the implantation of the impregnated ovum in the tube. One conclusion must logically be drawn from the author's findings—*i. e.*, that there should be no attempt made to save the pregnant tube; it will remain as a permanent menace for the development of another ectopic pregnancy.

Sectio Cesarea in Mortua—Living Child.—WEISSWANGE (*Centralbl. f. Gyn.*, No. 10, 1903).—The writer reports the following case, which affords interest in many respects: Patient was thirty years old, in the last month of her first pregnancy, felt perfectly well. At bed-time, when she stooped over to remove her stockings, she felt a sudden sharp pain in the region of the heart immediately followed by an attack of dyspnea. The physician who arrived within seventy-five minutes could only ascertain that the woman had just died. Cesarean section was performed after permission for the operation had been given by the husband, and a child deeply asphyxiated extracted from the uterus about nineteen minutes after death of the mother had occurred. The child was revived. Post-mortem examination showed a spontaneous rupture of the heart, the laceration being two cm. long. Microscopical examination was entirely negative.

There are three hundred and thirty-one cases of Cesarean section in *mortua* recorded in the literature of the last century; only in six or seven instances the outcome was favorable as far as the child was concerned.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Rheumatic Chorea and Its Antirheumatic Therapy.—KOBRAK (*Archiv fuer Kinderheilk.*, Vol. 36, H. 1 and 2) has collected the cases of chorea occurring in Neumann's polyclinic in Berlin. From 1895 to 1901 inclusive, 110 cases of chorea were seen, the total number of cases being 33,897 (0.3 per cent.). In the first half of 1902, 12 additional cases were observed, making a total of 122. Of these 61 (50 per cent.) gave a history of rheumatism. The actual number of cases of acute polyarthritis seen was 99. The preponderance of the chorea cases is explained partly by the fact that the severer cases of rheumatism did not come to the polyclinic, partly by the fact that in many cases the chorea is really only the first manifestation of rheumatism. Indeed, 18 cases were seen where the two conditions appeared in the same child at different times.

Kobrak believes that in addition to the rheumatic virus, a nervous element is at work in the production of chorea in rheumatically predisposed children. In this way he explains the preponderance of chorea in the female. In this connection it is noteworthy that the pre-pubertic period is a time of election for the onset of chorea. In order to test the question of the connection still further, a series of chorea cases (occurring in distinctly rheumatic children) was treated by the administration of an anti-rheumatic—*aspirin*. Of 11 cases treated, *aspirin* had a markedly beneficial effect in 9, much better than *arsenic*.

In 7 cases, without rheumatic history, *aspirin* acted very well in two; in the other 5 *arsenic* gave better results.

No good results were obtained from the use of aspirin in choreic endocarditis, nor did it appear that it exercised any marked prophylactic power in this respect.

Body Temperature in Different Kinds of Feeding of Healthy Infants.—In 1902 Weill showed before the Society of Medical Sciences of Lyon, temperature and weight curves of several infants fed by different methods. He came to the conclusion that certain definite relations existed between temperature, weight increase and the kind of food employed. More recently Tiberius has repeated and confirmed these observations. His results are summarized in the *Rev. Mens. des Mal. de l'Enf.*, April, 1903.

The temperature of healthy breast-fed infants is constantly at or slightly above 99.6°, without oscillation. It was found that when the temperature begins to show variations, the weight remains stationary. When weight begins to increase again, the temperature curve remains horizontal. The temperature of babies fed on cow's milk, whole or diluted, shows irregular oscillations from 97.6° to 100.6° F. Some relation between gain in weight and changes in temperature was also found.

The temperature of infants fed on ass's milk, which resembles human milk more nearly than cow's milk, approaches more nearly the temperature type of breast-fed infants.

The correctness of the observation was confirmed by a case of an infant at first artificially fed, and later put to the breast. The change in the temperature curve was at once noticeable. Tiberius believes that the differences in temperature afford an index as to the condition of the infant metabolism, in that the use of cow's milks offers, at times, difficulties in the way of assimilation. This is explained by the fact that it differs in its chemistry and in its ferments, from human milk.

The Medical Treatment of Tubercular Peritonitis.—GUTHRIE (*Archives of Pediatrics*, April, 1903) does not believe that laparotomy is of very great value in treating this condition. Of 41 cases treated at Paddington Green Children's Hospital, 14 underwent laparotomy, 7 of whom died, a mortality of 50 per cent. Of the 27 treated medically, only 4 died, a mortality of less than 16 per cent.

The author does not think that there is any specific treatment for this condition. Most of the medically treated cases were given inunctions of biniodide of mercury. However, as a rule, treatment must be entirely symptomatic.

Pain.—Best treated by rest in bed, local applications of belladonna, heated cotton, wool or spongiopiline.

Flatulency and Indigestion.—Mild, careful dieting and bismuth.

Diarrhea, unless profuse and continuous, needs no active treatment.

In some cases it may even be salutary in reducing ascites.

Bismuth and opium, aromatic chalk and opium powder are of much value.

Constipation.—Enemata if the lower bowel is loaded. Occasional doses of vegetable cathartics are indicated, unless evidence of ulceration be present.

General Diet.—This need not be fluid, unless there is obviously extensive ulceration. Pyrexia present is usually not high enough to interfere with digestion. Meat, fish, poultry, eggs, cream, milk and butter are usually well borne. Starchy and other foods tending to produce flatulency must be avoided.

Hygiene.—Rest in bed, in the open air, is essential.

Ascites. It often subsides spontaneously after rest in bed and mercurial inunctions. In the chronic cases where it shows no tendency to disappear it should be withdrawn. It is best to make a small incision and then use a blunt perforated trocar, so as to avoid wounding adherent intestines. The author does not believe that the operation of laparotomy, *per se*, is of special value in these cases.

Temperature Curve in Croupous Pneumonia in Children.—JENNINGS (*Archives of Pediatrics*, April, 1903) shows charts of five successive cases of pneumonia. They illustrate a sharp remission of temperature which the author has frequently noted in the course of the disease in children. This drop in cases with tardy development of physical signs is apt to be a confusing element in diagnosis.

In none of the cases reported was an antipyretic used. Drop usually appeared at end of second or on third day, and usually amounted to at least 3° F. Remission lasted only a few hours in each case.

Sterilized, Pasteurized or Clean Milk?—BROWN (*Archives of Pediatrics*, April, 1903) reviews the theories and facts concerning the handling and treatment of milk, and reaches the following conclusions:

(1) Sterilization at 212° F. is of great value, especially in cities, and to the poor who lack intelligence; because it may be performed by anyone without apparatus.

(2) Pasteurization at 140°–158° F. in closed vessels for fifteen minutes is much to be preferred, as the milk is little changed in taste or chemical properties from raw milk. This temperature is sufficient to kill pathogenic organisms and lactic acid producing bacteria. But all heating of milk to a degree sufficient to kill bacteria impairs—in direct ratio to height of temperature and time continued—the nutritive value of milk.

(3) When obtainable, fresh, pure, clean milk used raw is much to be preferred. Such milk is now supplied in many of the large cities, and could be provided in all cities and towns of even moderate size, if the profession would put forward the proper efforts.

(4) All milk dealers should be licensed by the town or city in which they sell milk. Such license should give health officer power to inspect premises at any time. The license should also carry with it a statement from the dealer that all cows producing milk which he sells have been tested for and found free from tuberculosis.

Tingling of the Hands in Scarlet Fever.—AUBERTIN (*Archives de Med. des Enf.*, April, 1903) calls attention to an early symptom of scarlet fever first described by Mayer. This consists of a peculiar tingling and pricking of the hands, most distinctly felt on the palmar aspect. In a few cases Mayer found transitory numbness (and paresis) of the entire upper extremity. There is no objective disturbance, no redness or swelling. There is no pain and the symptom is not to be confounded with the well-known scarlatinal arthritic pains. The symptoms appear at the time of or just before the appearance of the eruption, and lasts for a day or two. It has not been found in other exanthemata, or in the various scarlatinoid eruptions. Mayer found the symptom present in seventy-two out of a hundred cases of scarlet, and he believed that it might have diagnostic value in doubtful cases.

ORTHOPEDICS.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

Contribution on the Etiology of Coxa Vara.—M. FROELICH (*Revue d'Orthopedie*, 1902, Mars.)—There are, anatomically, two forms of coxa vara, according to the writer: the trochanteric form, with the bend near the trochanter, and the cervical form, with the bend near the femoral head. The first class is mostly produced by traumatism, tuberculosis, osteomyelitis or rachitis; the second is true coxa vara.

The symptom of true coxa vara, the restriction of abduction, is due mostly to the shortening of the muscles and tightening of the under side of the capsular structures. By exercises forcibly carried out, or forcible manipulation with massage, most of these cases can be greatly benefited, and only in exceptional cases does he recommend the chiseling off of the trochanter or the oblique subtrochanteric osteotomy.

The Structure of the Negro's Foot.—MAX HERZ (*Zeitschrift fuer Orthopaedische Chirurgie*, 1903, xi Band, 1 Heft).—It is a popular notion that the negro has nominally a flat foot. The author examined carefully many natives in Africa, negroes, Swahili, Kaffirs, etc., and shows by tracings and drawings that they have not flat feet, but, on the contrary, have well adducted feet, with a good arch, which at times may be marked by an abundance of muscular structures, which are developed very highly in these races who never bind the extremities and use the toes much as we do our fingers. The second toe is at times the longest, but the great toe is usually longer. He further observed that the tuber calcanei is no longer in the negroes than races further north.

Congenital Dislocation of the Hip; The Causes of Relapse.—E. H. BRADFORD (*Trans. Orth. Association*, 1902).—Transpositions should be classed as surgical failures as far as reduction goes, even if the patient is benefited by the treatment. Even in successful reductions relapses may occur, or reduction may be incomplete because the head does not pass in or through the capsular neck into the acetabulum, and a relapse naturally takes place. Failure to divide or sufficiently stretch the short tissues which produce the dislocation or check the free movement of the limb may cause the relapse. Several factors may, however, tend to a relapse after the successful reduction of the head into the acetabulum. There is not infrequently a twist in the neck of the femur, which throws the head of the bone forward when the foot is directly straight in front, so that x-ray pictures may give the impression of no head being present unless the foot and limb are strongly rotated in. After reduction of such a dislocated neck there has to be a correction of the inward rotation, or locomotion will be impossible without throwing the head out of the acetabulum. This is done by doing an osteotomy of the shaft of the femur above the condyles, and then rotation outward on the long axis of the bone. A Gigli saw is used instead of the osteotome, while the head is held in place either by a steel pin driven antero-posteriorly through the neck and incorporated in the cast, or a nail driven into the trochanter, as recommended by Schede. Another hitherto undescribed cause of relapse is the insertion of the psoas tendon on the twisted shaft, which acts as an everter of the foot, and tends to redislocation when the head of the twisted femur is in the acetabulum. This may be corrected by chiseling off the lesser trochanter, or by waiting until the adaption of the soft parts after reduction, which takes a long time.

The Role of Atmospheric Pressure in the Hip-Joint.—SEABURY W. ALLEN (*Boston Med. and Surg. Journal*, April 9, 1903).—The importance of air pressure in holding the head of the femur in the acetabulum is generally recognized, but the author has carried out some experiments which cast some doubt on the old teaching, and lead him to conclude that the bones are held together, primarily, by the cotyloid ligament, and, secondarily, by the capsular ligaments and the surrounding structures, and that "air pressure" need not be considered. Seven cadavers, with perfect fitting hip bones, were suspended vertically. Points for measurement were made by driving nails into the anterior superior spine, the top of the crest of the ilium and in the trochanter. The joint was then opened by trephining into the cavity from the pelvis, and air was admitted without the joint changing. The muscles were next severed, but there was no relaxation in

the joint. The posterior half of the capsular ligament was divided with separation averaging .23 c.m. When the anterior half of the capsular ligament was cut the joint separated .94 c. m. further, and after cutting the colyoid ligament the joint surfaces fell apart to the extent that the ligamentum teres was the only structure holding them together.

Neuroses as Seen in Orthopedic Practice.—B. E. MCKENZIE (*Canadian Journ. of Med. and Surg.*, December, 1902).—Such cases as manifest a disturbance of functional control, but are not marked by recognizable changes in the central or peripheral nervous tissue, often, because of disability, consult the orthopedist, particularly such cases where traumatism has been the initiative and doubt regarding the recovery has given rise to the nervous symptoms. Several causes may operate to produce a continuance of the disease, such as injury to some part, generally slight in itself but magnified in importance by some attendant circumstances or disease, recovery from which is not recognized, or consequent disability, which is greatly magnified, attended by the fear that the natural use of the part may be harmful. The home environment, with its magnification of each complaint of pain and overdone sympathy and indulgence, is probably the most baleful influence in the production of the neurotic state. In the paper the author details at length thirteen obscure cases, with the full detail of treatment. The diagnosis is the most essential point in treatment. Then separation from home surroundings, not giving the "rest cure," but having every detail an education, a training of faculties long unused, an exercise of the mind and body, which will restore the control that has been lost, and the use of such suggestion as will restore self-reliance. Such actual disease or disability should first be remedied as far as possible by surgical or other means. One feature of the author's treatment is made quite prominent, that is, the regular use of the gymnasium where class work is preferable, inasmuch as discipline is here best carried out, and by association with other persons allows the director the opportunity to bring into full play the pedagogic practices based on emulation.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Experimental Observations Upon the Pathogenic Action of an Organism Resembling the Klebs-Loeffler Bacillus, Isolated From Cases of General Paralysis of the Insane.—W. FORD ROBERTSON and SHENNAN (*Rev. of Neurol. and Psychiatry*, No. 4, 1903).—This is a preliminary note on the study of pure cultures of an organism resembling the Klebs-Loeffler bacillus found in various cases of general paralysis. Intraperitoneal and subcutaneous injections in guinea-pigs did not produce any noteworthy morbid symptoms. Intrapleural injection in a white rat resulted in death of the animal in five days. The following preliminary conclusions are advanced: When pure cultures of this bacillus are introduced by way of the alimentary tract in the form of broth cultures, it is capable of producing in the rat a series of morbid phenomena which especially affect the nervous system and which, when once established, may go on progressively till death results, even though feeding with the cultures is stopped, and that the associated changes in the central nervous system have a distinct resemblance to those which occur in dementia paralytica.

Lesions of the Posterior Lymphatic System of the Cord the Origin of the Pathological Process of Tabes.—MARIE and GUILLAIN (*Rev. Neurolog.*, No. 2, 1903).—The question of the essential lesion of tabes is as yet unsettled. The two latest theories of Negeotte and Thomas are at present being widely discussed. The former holds that the initial lesion depends upon an inflammatory process which attacks a number of the sensory and motor roots as they leave the cord at the subarachnoid space, depending upon a syphilitic process of the meninges. The latter believes that the initial lesion is a neuritis, comparable in certain respects to the histological lesions found in the toxic neuritiden, but which differs from them by the fact that they exercise a selection for the posterior root. This neuritis is rather a dystrophy than an inflammatory process. The paper here presented by Marie and Guillain, the former especially well known by his previous contributions to the pathology of tabes, presents an entirely new conception of the tabetic process. The authors of this paper base their theory upon two facts which can be demonstrated macroscopically in a tabetic cord: first, by the atrophy of the posterior nerve roots; second, by the posterior meningitis. To explain the limitations of the meningitis to the posterior portion of the cord they bring forward the anatomical peculiarities of the lymphatic system which supplies the cord. This system, limited to the posterior meninges is almost an independent one which does not communicate, or at least very sparingly, with that of the anterior and antero-lateral system. In other words, the pathology of the posterior meningitis is a special one. They believe that there is sufficient grounds for asserting that there exists in the spinal cord a lymphatic system particularly active and relatively independent, constituted by the posterior roots and the pia mater in juxtaposition with them. Their conclusion is that the initial lesion of tabes is nothing else than a syphilitic lesion of the posterior lymphatic system of the cord.

The Cytological Examination of the Cerebro-Spinal Fluid in Tabes.—DELISLE and CAMUS (*Rev. Neurolog.*, No. 4, 1903).—The examination of the fluid drawn by spinal puncture in tabes for purposes of diagnosis has been much in vogue in the French clinics. There is as yet some difference of opinion as to its real value. In twelve cases of tabes in the service of Professor Dejerine only four showed a positive lymphocytosis. The authors of the above paper found that it was positive in some cases of tabes of long standing but not in recent ones. The age of the tabetic process bore no relation to the presence or absence of lymphocytosis. Their conclusion is that the examination of the cerebro-spinal fluid is of no importance either in prognosis or diagnosis in tabes.

The Cyto Diagnosis of Tabes.—WIDAL, SICARD and RAVANT (*Rev. Neurolog.*, No. 6, 1903).—In this paper the authors, who are to be regarded as the originators of the spinal puncture method of studying tabes, answer the negative conclusions of the foregoing paper. They criticize the conclusion reached there upon the fact of the inexactness of the technic used by Delisle and Camus. They quote the result reached by Babinski and Nageotte, who report twenty-five positive out of twenty-six cases, and of many others with equally good results. To answer the objections advanced by their critics they reported thirty-seven cases of tabes in which the test was positive. The technic is briefly as follows: Its purpose is to convey to a glass slide for microscopical examination in the smallest possible space all histological elements contained in a given amount of cerebro-spinal fluid. The fluid should be collected with the greatest care in a thin, sterilized tube and centrifuged. The sediment should be placed on a warm slide, fixed in alcohol and ether and stained with eosin-haematin, thionin or the tri-acid stain of Ehrlich. The following is a brief resume of their conclusions: Lymphocytosis of the cerebro-spinal fluid is not only a specific diagnostic sign of tabes and general paralysis, but it is not found in tubercular meningitis. It is an evi

dence of a simple irritative process. It is found in syphilitic meningitis and in meningo-myelitis of a specific nature. In patients with a syphilitic hemiplegia it is always found. In hemiplegies the presence of a lymphocytosis in the cerebro-spinal fluid should always suggest the possibility of its specific nature. In the hemiplegic state of the ordinary cerebral hemorrhage or softening, lymphocytosis is always lacking. It is only after the stroke itself that a temporary lymphocytosis is found. In cases of old syphilitics presenting no specific or nervous symptoms the cerebro-spinal fluid is normal. In a patient with a syphilis of long duration, presenting a lymphocytosis of the cerebro-spinal fluid, the suspicion of a possible tabes or a general paresis should always be aroused.

The Cortical Cell Changes in Epilepsy—Their Significance and Clinical Interpretation.—L. PIERCE CLARK and THOMAS P. PROUT (*Boston Med. and Surg. Jour.*, No. 17, 1903).—In considering the pathological change in epilepsy a sharp distinction should be drawn between the lesions of the cortex, which are a direct result of the epileptic discharge, and the abnormal states of the cortex which precede and predispose the individual to epilepsy by producing an unstable nervous organism. The central idea which prompted the beginning of this study four years ago upon status epilepticus, was that the latter is the most pronounced state of the disease. If, therefore, there are distinct cortical cell changes in epilepsy, such must be present in the most pronounced form following the status. The study comprises an examination of the cortex in eighteen cases of epilepsy from the Craig colony, some of which died during the status. To avoid post-mortem changes as much as possible the brains were examined as soon as possible after death. In the eighteen cases studied, the longest period of time elapsing after death before the material was placed in the fixing agent was seven hours. The fixing and hardening agent was absolute alcohol, and the tissues were stained by the Nissl method. For purposes of comparative study some sections of normal brain were prepared in like manner. The condition of the cells of the cortex, especially those of the second layer and other cells of that type, was most striking and differed only in degree in the several cases of epilepsy. The cells were swollen, some being ballooned to twice their normal size. The chromatic substance was almost entirely gone, nothing but a bare framework remaining of the body of the cell itself. The nucleus was often swollen out of proportion to the swollen cell body. In the majority of instances the outline of the nucleus was difficult to define, all traces of the nuclear membrane having disappeared. The nucleus itself presented a finely granular appearance. They believe that these facts point to a destruction and ultimate disappearance of the cell as a unit in the cerebral cortex. The nucleus is the highest biologic portion of the cell. Recent biologic facts prove that it presides over the vital process in the cell and that without it the cell dies. Since the nuclear changes ultimately result in cell death, we are in a better position to understand a condition so frequently found after status—the infiltration of the cortex with leucocytes. The gliosis, of course, occurs as a remote sequence of the cortical cell destruction, and since cells of the second layer suffer, especially in the acute epileptic process, the great frequency of extreme gliosis in the outer layer of the cortex is readily understood. Probably the most practical lesson to be drawn from this study is that epilepsy is a diffuse lesion of the entire cortex. In conclusion, the authors believe that they have narrowed the gap that has hitherto existed in the knowledge as to the terminal gliosis and the toxic and autotoxic agents in the pathogenesis of the disease, and that this is largely comprised in the cell changes and particularly those of the nucleus.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Renal Decapsulation for Chronic Bright's Disease.—EDEBOHLS (*Med. Record*, March 28, 1903).—The author again calls attention to his operation for the cure of chronic Bright's disease, and reports thirty-two additional cases operated upon in 1902. He also calls attention to the fact that many cases are unilateral. He gives more minute directions as to the preparation of the patient, speaks of some of the faults in the technique of other operators. He gives a brief record of his deaths, and quotes other cases in illustration. In the summary of his fifty-one cases, embracing forty-seven operations upon both kidneys and four operations upon one kidney only, seven patients died within seventeen days, seven died at periods after operation varying between two months and eight years, two patients do not show improvement satisfactory in every respect, twenty-two patients are in various stages of satisfactory improvement. One patient, after a cure extending over four years, again has chronic Bright's disease; one of her kidneys only was operated upon. Nine patients were cured of chronic Bright's disease, and remained cured after an average duration of over four years. Three patients have been lost sight of.

Concerning the Influence of Resection of the Deferent Canal Upon the Tonus of the Vesical Sphincter.—WASSILIESS (*Ann. des Mal. des Org. Genito-Urin.*, March 1, 1903).—The good effect of sexual operations for prostatic hypertrophy has been attributed to atrophy of the prostate, but the researches of certain authors have clearly disproved this. In fact, Floderus has shown that the diminution of the volume of the gland that is observed clinically is not due to a change of its texture, but to a diminished afflux of the blood and lymph.

It has been demonstrated clinically and experimentally that there is a certain reflex action upon the urinary apparatus from sexual operations. After quoting seventeen very interesting personal experiments, in which the author shows that there is a reflex diminution in the tone of the vesical sphincter following sexual operations, he concludes that the amelioration observed in prostatic hypertrophy after such operations is due to the diminution of the tone of the vesical sphincter by reflex action. This is, indeed, confirmed clinically, because it is with acute prostatitis that the sexual operations give the best success, and, further, this hypothesis explains why the relief so often rapidly follows the operation. The suppression of the sphincteric spasm influences, happily, the circulation, and thus assures a more stable and prolonged benefit.

Some Remarks on Hypernephroma, or Adrenal Tumor of the Kidney.—OHL-MACHER (*The Cleveland Med. Journal*, March 1, 1903).—Hypernephroma is a term now applied to tumors arising from the adrenals and located either in the adrenals, in more or less close proximity to these organs, or in the substance of other viscera, *i. e.*, the kidney. It is a fact, very familiar to embryologists and anatomists, that the adrenal is prone to displacement during its development, either the entire gland being abnormally located or portions ("rests") of it being misplaced. To the proliferation or multiplication of the cells composing such adrenal rests the origin of hypernephroma is ascribed.

Histologically, they reproduce more or less perfectly one or the other of the normal layers of cells into which the adrenal cortex is divisible, or they partake in structure of the adrenal medulla.

They may either be benign or malignant. The author reports four cases which have come under his observation. Since the true nature of these adrenal

growths of the kidney has been elucidated, it is far from permissible to call hypernephroma a rare form of renal tumor.

The Prostate and Its Relation to Rectal Disease.—MARTIN (*Internat. Med. Magazine*, March, 1903).—Because of their intimate relation and the anatomic arrangement of their venous systems, rectal irritations are sometimes dependent upon prostatic disease and *vice versa*. Indeed, that condition known as senile hypertrophy may have as its cause, in addition to the urethral irritations to which it is usually ascribed, rectal inflammations. The author reports three cases in which a mild acute prostatitis immediately yielded to treatment directed to the primary rectal condition, and one case in which the primary condition lay in a congested and chronically inflamed prostate, which only tended to accentuate and continue a catarrhal condition already existing in the rectum and colon.

Trikresol in Para-Urethral Abscess.—HEIDINGSFELD (*Boston Med. and Surg. Jour.*, April 16, 1903).—Having noted the marked success following the injection of trikresol in acne, furuncles and localized abscesses (a single injection often completely absorbing them in twenty-four to forty-eight hours), the author was led to try this method in para-urethral abscesses with suprisingly good results. The method consists simply in injecting into the center of the abscess, with a hypodermic syringe, from a fraction of a minim to a minim or more of trikresol, according to the size of the abscess. Slight reaction only takes place, followed by a speedy disappearance of the abscess.

The Bacteriology of Cystitis.—LONGFELLOW (*J. A. Med. Asso.*, April 4, 1903).—This excellent compilation of the subject is replete with valuable information. The author, among other things, says: In cystitic urine, as a rule, both cocci and bacilli are present; either one may exist in excess of the other, both may exist equally, or only one form of bacteria may be present. Among the cocci present are the staphylococcus pyogenes aureus, albus or citreus, the micrococcus ureæ, sarcina urinæ, the uro bacillus liquefaciens septicus, the streptococcus pyogenes, the zooglae masses, and the gonococcus.

The bacilli are usually the coli communis, the tubercle and, in cystitis during the middle or latter end of a typhoid attack, the Eberth bacillus. Thiogenic bacteria may be present, whose peculiar function is to convert sulphuretted hydrogen into more potent compounds of sulphur, and play no small role in cystitis.

Movable Right Kidney as a Cause of Pancreatic Diabetes.—BROWN (*Phil. Med. Jour.*, April 4, 1903).—Two cases are reported of movable right kidney, which evidently, by pulling upon the pancreas, caused glycosuria. Successful nephropexy was followed by disappearance of the sugar.

The Administration of Calcium Salts in Nephrolithiasis Due to Uric Acid Calculi.—CROFTAN (*J. A. Med. Asso.*, March 28, 1903).—The author's favorable experience in four cases and the statistics of Van Noorden lead him to believe that the treatment of uratic nephrolithiasis by the continuous exhibition of calcium salts is efficacious and deserving of extended trial. The administration of calcium carbonate in fifteen to twenty grain doses or more, three times daily, gives the best results.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Granuloma Trichophyticum.—P. COLOMBINI (*Derm. Zeitschrift*, 1902, p. 641).—This form of ring-worm occurs usually upon the scalp, but is often seen elsewhere, especially upon the forearms. The lesions occur in the form of large papules, tubercles or tumors, the parasite penetrating the deeper layers of the skin and the subcutaneous tissue, where it forms granulomatous tissue. The lesions soften and the detritus contains epithelial and pus cells and round bodies, the spores of the fungus.

A case is here reported by Colombini, which had besides the usual lesions of ring-worm of the scalp large papules scattered over the scalp of a pale to a dark red color.

A Case of Blastomycosis.—J. H. SEGUEIRA, M. D., Lond. (*British Jour. Dermatology*, April, 1903).—To Dr. Gilchrist, of Baltimore, Dr. Segueira acknowledges his indebtedness for the recognition of this case, which is probably the first recorded case of blastomycosis in England. The patient was a strong man of thirty-seven years, born in England and had never resided out of that country. He was a handler of cattle. There was no history of syphilis. In the spring of 1901 a small white spot appeared below the inner canthus of the left eye, which spread inward and increased to the size of a six penny piece in three months. At times there was a whitish offensive discharge from it and occasionally slight hemorrhage. There was considerable itching. About five months later a similar spot appeared below the right eye, which spread in the same manner finally impairing vision by its size. Several spots also appeared about lesions on cheeks, one upon the scalp.

Upon entrance to hospital the lesions occupied the above locations, they were not tender to touch and upon pressure a thin, whitish, offensive discharge could be squeezed out from under the crusts. When the crusts were removed small ulcers were disclosed from which the pus oozed upon pressure.

The diagnosis was based upon the following points: (1) The face and scalp alone were affected. (2) The lesions were multiple. (3) These spread and fresh lesions appeared apparently by inoculations. (4) The edges of the tumor were well defined and there was but little infiltration. (5) They soon became pustular and thin whitish pus could be squeezed out. (6) Microscopically there were numerous minute epidermal abscesses. (7) In these abscesses and in the pus squeezed from them budding yeast-like organisms were found. (8) From the deeper layers of the epidermis branching down growths of prickle cells were found extending into the corium. (9) The growths were markedly influenced but were not entirely dispersed by iodide of potassium in large doses.

Liquid Germicide.—HERBERT SKINNER (*British Journal Dermatology*, April, 1900) recommends the following as a powerful liquid germicide which produces no deleterious effects upon the skin:

Formalin,	
Glycerin	aa ½ fl. oz.
Sol. potass. oleat.	3 fl. ozs.
Ol. lavand.	20 min.

A Fatal Case of Schoenlein's Disease.—W. T. WATSON, M. D.—The case is reported on account of the fatal termination and autopsy. Female, aged ten, had always been well with exception of measles and chicken-pox, which she had

when quite young. Two or three months prior to onset of disease had complained of pain in abdomen which would pass away in few minutes. She also had frequent headaches during the two weeks preceding the attack. The attack dated from January 28th, when she had a chill followed by high fever. On 29th fever continued with frequent vomiting, no pain. These symptoms continued until the 31st, when she complained of aching of arms and legs and a rash like measles appeared on chest and back, while points of pressure, like the hips and buttocks, became intensely red. The next day the joints began to swell and the eruption appeared on abdomen, while the skin upon the posterior aspect of thighs and buttocks was the site of a continuous purpuric eruption. About nine days later the case took on the aspect of an acute nephritis and patient died March 12th.

The anatomical diagnosis from the post-mortem was acute hemorrhagic glomerulo-nephritis, anasarca, broncho-pneumonia.

Contribution to the Study of Psoriasis.—M. ORO and L. MOSCA (*Giornale internazionale delle scienze mediche. Annales de Derm. et de Syphilis*, March, 1903).—In the microscopical study of psoriasis the authors find that it begins as a small leucocytic cluster or abscess, agreeing with the findings of Munro and of Kopytanski.

At the autopsy of a patient who had had psoriasis with exfoliation, they found a myelitis which was almost exclusively limited to the gray substance and principally to the large cells of the anterior cornua. The peripheral nerves presented the lesions of an interstitial neuritis, the vessels also had changes in their coats with integrity of the internal tunic.

The injections of the urine of psoriatics, they report the results of six injections, demonstrated that it was more toxic than that of healthy individuals. The inoculation of scales of psoriasis upon healthy skin of non-psoriatics produces no result upon either irritated or non-irritated surfaces. Bacteriological examination of the blood gave no results.

From these studies the writers conclude that the parasitic origin of psoriasis is yet to be demonstrated and that in their opinion the autotoxic and neuropathic theories are most applicable to the pathology of the disease.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Bromide of Ethyl in Adenotomy and Tonsillotomy.—SOLENERBERGER (*Jour. A. M. A.*, April 18, 1903).—The author states that an ideal anesthetic for the removal of adenoids and tonsils has not yet been found, but believes that the bromide of ethyl more nearly meets the demands than any other anesthetic which we now possess, especially for children. The mortality reports in recent years show it to be as safe as ether. Riech found there were 16 deaths in 60,000 cases, some of which were due to faulty administration and others to impurities of the drug. The author, with an experience of 100 cases, met with only two in which at all alarming symptoms arose. They were due in the one to faulty administration, and in the other to impurities of the drug.

Strict rules as to its administration must be observed, viz.: There must be a reasonable certainty of the healthiness of the lungs, liver and kidneys (the fact that a child is delicate does not contraindicate its use). The drug should be pure (the pure specimen is found only in sealed brown glass tubes). The mistake of giving the bromide of ethylene must be avoided. It should be given

with the child in the intubation position, "en masse" as free from air as possible, in quantities of five gm. for children up to five years, and 10 gm. the maximum dose up to the age of twelve years. The time of administration is from twenty to forty seconds and not longer than one minute. The operation can always begin one minute after the beginning of the administration. The anesthetic lasts about two minutes, after which the patient becomes immediately conscious with no uncomfortable sensations. Under no circumstances should the cone be reapplied.

For the removal of tonsils and adenoids, the author uses his modification of the McKenzie guillotine for the former and Gradle's modification of Casselberry's guillotine for the latter, when they are simply the enlarged third tonsils and centrally located in the vault. When the adenoids extend slightly beyond this area he employs Delstaunch's modification of the Gottstein curette, followed by the Kierstein curette.

The Cold Snare in Tonsillotomy.—MYERS (*Laryngoscope*, March, 1903) has for the past ten years employed the cold snare almost exclusively in the operation for the removal of tonsils, without the occurrence of a single serious hemorrhage, and believes it to be the ideal instrument for tonsillotomy. The advantages claimed by the author are that the snare is much easier to manipulate because of its size, that the loop can be adapted to any tonsil that requires removal, that it causes less damage to the faucial pillar and does more satisfactory work than any other single instrument.

The writer uses Dunn's snare with a much stronger handle and with a larger shank.

On the Treatment of Chronic Tonsillitis.—MOELLER (*Zeitschrift fuer Ohrenheilkunde*, Band xlv, Heft 1).—The most frequent method of treating chronic tonsillitis is that of tonsillotomy, but in many cases this cannot be done, especially when there is no hypertrophy present. Even when the tonsils are very small there may be sufficient crypts remaining for the chronic inflammation to be kept up.

Good results are obtained in the chronic lacunar form of tonsillitis by a scraping out of the crypts, followed by the application of astringents, or when the crypts are too deep, by slitting them. Another form of treatment and one that has been neglected, viz., "morcellment," especially that of the upper part of the tonsil. This can easily be accomplished with Hartmann's conchotome. The upper part of the tonsil is in most cases the principal seat of the disease and its removal alone will effect a cure. When the tonsillotome is used the enlarged lower part of the tonsil is caught, while the upper part remains between the pillars of the fauces. That the upper part of the tonsil is the principal port of entry for the different infections is shown in the fact that the peritonsillar abscesses are always located in this region.

A Further Contribution Concerning the Cause and the Specific Treatment of Hay Fever.—DUNBAR (*Deutsche Med. Wochenschrift*, February 26, 1903).—In November, 1902, the author published a pamphlet on the cause and specific treatment of hay fever, in which he reports the results of his earlier investigations. He had succeeded in isolating from the pollen of certain grasses a toxic substance, which, when applied in very small quantities to the eyes or nostrils of people predisposed to hay fever, produced in a few minutes, in a more or less degree, the local symptoms characteristic to the disease, while the same quantity applied to the eyes and noses of people not predisposed had remained without any effect. He had also succeeded in producing an antitoxine by injecting the pollen of rye, maize and other grasses into the circulation of animals, such as rabbits, goats and horses. This antitoxine, when applied to the eyes or nostrils

of hay fever patients, in whom the symptoms had been produced by the toxine, would immediately cause their cessation. In this report the author states that he was able to obtain the toxine from twenty-one different grasses and has tried it on a number of persons predisposed to hay fever with the above results. He believes it to be a proteid, as it gives a proteid reaction. It has also been found that a toxine obtained from one variety of grass will be neutralized by the antitoxine obtained from a different variety, from which the author is inclined to believe that the toxines are identical. He also succeeded in producing the symptoms of hay fever not only by applying the toxine to the nose and eyes, but by injecting it into the arm of a patient. He found the pollen of roses and wormwood entirely inactive.

A Demonstration on Some Experiments on the Nature and Specific Treatment of Hay Fever.—SEMON (*British Med. Journal*, March 28, 1903).—With some of the toxine and antitoxine obtained from Prof. Dunbar, the author conducted some careful experiments on six persons, including himself, non-subjects of hay fever, and five hay fever patients, with the result that there was no reaction whatever in the first four, while in his own case there was some irritation and congestion of the conjunctiva, with an itching sensation in the nose. In the five hay fever subjects symptoms characteristic to the disease developed in all. The history of each case is given in detail. The toxine was diluted to 1-1000 in normal salt solution, and dropped in the eyes of the patients. After the symptoms appeared the antitoxine was then instilled, with the result that there was a cessation and disappearance of the symptoms.

The writer's conclusions are:

1. That there can be no doubt that Prof. Dunbar has succeeded in extracting from the pollen of certain grasses a toxine which, when instilled into the eyes or nostrils of people predisposed to hay fever, produces the characteristic symptoms of the disease.
2. The toxine, when injected into the eyes or nostrils of people not predisposed, produces in the majority no symptoms.
3. The effects of the toxine vary the same as there are different variations of the disease in different people.
4. The antitoxine produced a disappearance of the subjective and objective symptoms.
5. That in a mixture of equal parts of the toxine and antitoxine, the action of the former is neutralized.
6. That the effects of the antitoxine appear in some instances to suffice to prevent a reappearance of the subjective symptoms, while in others it requires repeated instillation to get a return to normal.

Whether the antitoxine will arrest a genuine attack of hay fever, and if the effect will be lasting, or whether the symptoms may return, is not known.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Operation on the Tendon of the Superior Rectus Muscle for Paresis of the Superior Oblique.—E. JACKSON (*Ophthalm. Review*, March, 1903).—In paresis of the superior oblique "the function of preserving normal relations between the two retinae by the production of intorsion, and by preventing excessive extorsion" . . . "falls almost wholly upon the superior rectus." Displacing the insertion of the tendon of the superior rectus backward and outward (1) increases its power to cause

intorsion, (2) diminishes its power to cause upward rotation of the eyeball, (3) lessens its tendency to turn the eye in, (4) increases its power of acting with the inferior oblique to help turn the eye out.

Operation.—The conjunctival incision lies 8 mm. back of the cornea, and extends outwardly a little beyond the temporal margin of the tendon. After raising and isolating the tendon on a strabismus hook the suture is passed in the following manner: It is entered near the nasal margin and close to the insertion of the tendon, passed beneath the tendon a little backward and outward, made to engage the sclera at the point selected for the new attachment and again passed through the muscle from within out. The tendon is divided close to its insertion.

Two interesting cases are described.

Remarks Upon Certain Diseased Conditions of the Cornea.—G. HERBERT BURNHAM (*Ophthalm. Review*, March, 1903).—Conical cornea is due, in the writer's opinion, "to a certain impaired condition of the nervous system," and treatment by operation and glasses is, on this assumption, irrational. He advocates the hypodermic use of pilocarpin combined (when a more energetic effect is required) with iodide of potassium and mercury given internally. The consistent use of this method in a case of conical cornea raised vision from 9-200 to 20-100, at the same time improving the general health of the patient.

The Absorption Treatment of Cataract and Its Effects on the Eye.—J. W. WRIGHT (*Columbus Med. Jour.*, March, 1903).—Wright calls attention to the increasingly large number of patients taking the so-called "resolvent" or "absorption" treatment for cataract and corneal opacities, not infrequently on the advice of a physician. He has been led to question the reputed innocuousness of these preparations, in view of abnormal conditions of the cornea and vitreous encountered during cataract operations performed on individuals who had subjected themselves to the treatment. He has found the corneal tissue flaccid, sinking in centrally after the incision, the edges of which failed properly to coapt until the reformation of the anterior chamber. In several cases vitreous has been lost owing to abnormal fluidity.

Trichiasis as a Sequel to Excessive Deposition of Fat in the Eyelids.—A BOUCHART (*La Clin. Ophthalm.*, March 25, 1903).—The cases the writer has encountered have occurred in young Algerian women. The lids are puffed and droop, as in ptosis. A roll of fat situated in the subcutaneous tissue forms a projection near the free border of the lid and displaces the ciliary margin downward or even backward.

In the case described, Bouchardt removed a mass of fat as large as a pigeon's egg and then completed the operation according to the method of Panas.

Syphilitic Inflammation of the Extrinsic Ocular Muscles and Heart Muscle.—BUSSE and HOCHHEIM (*v. Graefe's Arch. f. Ophthalm.*, LV. Band, 2. Heft, 1903).—The patient, a female aged thirty-seven, developed, after exposure to cold, an edema of the legs, face and eyelids. Shortly afterwards there ensued a paralysis of all the extrinsic ocular muscles and of Levator palp. sup. sinistr. This was followed by the development of right optic neuritis and right exophthalmus. Syphilis was suspected and the patient was placed on potassium iodide and later mercurial inunctions. In the course of the treatment a right ptosis appeared. Three weeks after beginning treatment the patient, without warning or obvious cause, developed a tachycardia, the pulse running up to 240. This subsided in the course of a week, but recurred four weeks later, death supervening.

The autopsy showed an interstitial myositis and myocarditis which, in the absence of caseation and tubercle bacilli, could only be regarded as originating from aluetie infection.

MISCELLANEOUS ITEMS.

Death of Dr. John P. Bryson.—In the death of Dr. John P. Bryson, Professor of Genito-Urinary Surgery in the Medical Department of Washington University and Treasurer of the Faculty, Genito-Urinary Surgeon of the Staff of Mullanphy Hospital, the medical profession has lost a pioneer. Dr. Bryson was the first man in the West to specialize the genito-urinary branch of surgery, and was regarded as the father of that work in this part of the country.

Dr. Bryson was born at Macon, Mississippi, fifty-seven years ago. He came to St. Louis after the civil war and received his medical education at the Humboldt Medical College, later serving as interne at the city hospital. He was one of the organizers of the Genito-Urinary Department of the American Association of Physicians and Surgeons, and stood alone in this vicinity in his branch. He was a liberal contributor to medical literature.

Nothing could more emphasize the esteem in which he was held by his fellow-practitioners than the befitting memorial meetings of the medical societies of this city. Dr. Bryson was not only one of the foremost surgeons and teachers of medicine in the United States, but as a man and a physician he represented a type that would elevate the standard of any community.

Missouri State Medical Association.—The Missouri State Medical Association held its forty-sixth annual meeting April 21st, 22d, 23d, at Excelsior Springs. The meeting was one of the most successful in the history of the organization. The judicial council had worked industriously during the year for the success of the meeting and the fruit of their labor became manifest when it was found that sixty-one county societies had been organized and appeared for affiliation with the state association, making the total membership in the state association more than 1,200. This is a most gratifying showing and the profession of the state is to be congratulated that such a noble beginning is made in the direction of perfecting an harmonious and powerful organization of the medical men of the state. At this meeting the new constitution and by-laws were adopted which makes the state association an integral part of the American Medical Association.

Dr. Woodson Moss, the president, directed the affairs of the meeting in a most efficient and satisfactory manner. The program embraced papers of interest and importance, nearly all of which were read in full.

On Thursday evening a reception was tendered the members and ladies by the local profession. The large hall in the "Maples" was tastefully decorated and everybody enjoyed a most pleasant evening. Dr. Paul Y. Tupper, of St. Louis, acted as toastmaster and toasts were responded to by Drs. O. B. Campbell, C. Lester Hall, W. G. Moore, A. H. Meisenbach.

The officers elected for the ensuing year are: President, W. G. Moore, St. Louis; First-Vice President, O. B. Campbell, St. Joseph; Second Vice-President, T. N. Bogart, Excelsior Springs; Secretary, C. M. Nicholson, St. Louis; Assistant Secretary, E. J. Goodwin, St. Louis; Treasurer, J. T. Welch, Salisbury.

Delegates to American Medical Association: Drs. F. J. Lutz, St. Louis, W. B. Dorsett, St. Louis, and Jabez N. Jackson, Kansas City.

St. Louis was chosen as the place of meeting for 1904, which will occur on the third Tuesday in May.

Illinois State Medical Society.—The fifty-third annual meeting of the Illinois State Medical Society was held at Chicago, April 29th, 30th, and May 1st and 2nd. The meeting was one of the most enthusiastic in the history of the society and showed the progress of the organization of the medical profession, nearly every county in the state having organized its county society. A new constitution and by-laws were adopted placing Illinois in affiliation with the American Medical Association.

For the ensuing year the following officers were elected: President, Dr. Carl E. Black, of Jacksonville; Secretary, E. W. Weis, of Ottawa; Treasurer, E. J. Brown, of Decatur.

The American Medical Association.—The fifty-fourth annual meeting of the American Medical Association was held at New Orleans, May 5th, 6th, 7th, 8th. The association was divided into a business section—the house of delegates—and the scientific sections. In the house of delegates all business was transacted, leaving the work of the scientific section to go on uninterruptedly. The committee of arrangements perfected an elaborate program for the entertainment of the members and their families. The attendance was much larger than at any other meeting in recent years. From both a scientific and social point of view the session was gratifying to all.

The officers elected for the ensuing year were: President, Dr. J. H. Musser, of Philadelphia; Vice-Presidents, Isadore Dyer, New Orleans; C. Lester Hall, of Kansas City; George C. Savage, of Nashville; Secretary and Editor, Geo. H. Simmons, of Chicago; Treasurer, H. P. Newman, of Chicago.

The place of meeting for next year will be Atlantic City, N. J.

BOOK REVIEWS.

THE DISEASES OF INFANCY AND CHILDHOOD. For the Use of Students and Practitioners of Medicine. By L. EMMET HOLT. Second edition, revised and enlarged. D. Appleton & Co. 1902. Pages 1161.

The second edition of Holt's well-known text-book presents about the same arrangement of matter as the first, though many parts of the work have been entirely rewritten.

The first, second and third chapters, dealing respectively with hygiene and general care of infants and children, growth and development, and peculiarities of disease in children, are especially interesting and valuable. Much space, naturally, is devoted to infant feeding. The various methods of artificial feeding and descriptions and analyses of various proprietary foods are given. It is noteworthy that the author, while condemning the prolonged use of any of the commercial foods, as substitutes for breast feeding, considers that they may be useful for short periods during derangements of digestion, when we wish to withhold all fat and milk proteids. He believes furthermore that those foods which require the addition of fresh milk in their preparation, may be useful, in that they furnish the additional carbohydrates required by an infant taking diluted cow's milk, thus taking the place of the milk or cane-sugar in the modifications.

The laboratory method of modification has given the author excellent results, but he naturally recognizes the necessarily limited sphere of its application. Methods of home modification are therefore given in detail. In the discussion of the various diseases which follows, one is struck particularly by the full description of the morbid anatomy of the various lesions. The anatomical drawings and plates add materially to the value of this feature.

A detailed review of all the special chapters is not possible here, nor is it necessary, because Dr. Holt's work is recognized as one of the standard text-books on pediatrics. It may be mentioned, however, that the author recommends tuberculin as a diagnostic aid in tuberculosis. This is in accord with the views expressed at the German Medical Congress at Carlsbad this summer. Dr. Holt believes that with proper precautions the use of tuberculin is perfectly safe. It is to be regretted that he does not specify more particularly as to these precautions, especially as to dosage.

The book is one that will commend itself to all practitioners interested in pediatrics, and one that will repay careful reading.

A MANUAL OF MATERIA MEDICA AND PHARMACOLOGY. By DAVID M. D. CULBRETH, PH. G., M. D. Third edition, 8vo, pp. 916. Lea Bros. & Co., Philadelphia and New York. 1903.

Apart from the mechanical side, the revision of a technical work, like the one in hand, means much more than is usually conceived by the reader. The account given of new material not included in former editions must be accurate and complete; the presentation of the old material must be improved. In both respects the volume under review deserves praise.

The arrangement of the drugs themselves is, as in the previous editions, based upon the principle of associating as nearly together as possible those substances, organic and inorganic, which have a common or allied origin, allowing those next related to follow in regular order. Vegetable drugs, therefore, appear in botanic sequence, beginning with the more simple, such as the algæ and fungi, and gradually proceeding to the more complex. Animal drugs are similarly classified, beginning with the insects and ending with the products of the higher

vertebrates. Organic drugs, carbon and synthetic compounds are arranged similarly, their chemical relationships being, however, always borne in mind.

The typography is excellent, the illustrations, too, being particularly satisfactory.

UEBER DEN BAU UND DIE ENTWICKLUNG DER LINSE. Von DR. CARL RABL, Professor der Anatomie und Vorstand des Anatomischen Instituts der Deutschen Universitae Prag. Mit 14 lithographierten Tafeln und 132 Figuren im Text. Leipzig-Verlag von Wilhelm Engelmann. 1900.

In this monograph Professor Rabl has given us the results of his own investigations on the structure and development of the crystalline lens in amphibia, reptiles, birds, mammals, etc. The work was carried on under great difficulties, owing to political disturbances in Prague, the university being for a time under military protection; on one occasion the author's microscope and slides were with difficulty conveyed to a place of safety.

In spite of these drawbacks Professor Rabl has produced a splendid and exhaustive treatise which everywhere gives evidence of the most painstaking investigation. The illustrations are exquisitely drawn and supplement excellently well the elaborate descriptions of the author.

DIE VERLETZUNGEN DES SEHORGANS MIT KALK UND AEHNLICHEN SUBSTANZEN. Von JULIUS ANDREAE, DR. MED. ET PHIL., Leipzig. Verlag von Wilhelm Engelmann. 1899. G. E. Stechert, New York.

Andrae's monograph embodies the various aspects of lime burns of the eye. That the subject is an important one and worthy of the exhaustive handling given by the writer is attested by the fact that lime burns are second only in frequency to those sustained by hot metals. Among the topics considered are: Action on the eye of various salts of lime; Manner in which the eye is injured; Clinical and anatomical sequelae; Origin and chemistry of alterations in the cornea after lime burns; Therapy and prognosis; Statistics; Accident insurance and prophylaxis.

315 references from the literature are cited.

UEBER DIE BEHANDLUNG INNERER BLUTUNGEN MIT BESONDERER BERUECKSICHTIGUNG DER GELATINEANWENDUNG. Von BOLTENSTERN. Wuerzburger Abhandlungen aus dem Gesamtgebiete der Praktischen Medizin. Vol. 3, No. 5. A. Stuber's Verlag, Wuerzburg. 1903.

In some thirty octavo pages the writer gives a brief resume of the present standpoint of gelatine therapy. The local use of gelatine unquestionably is of great hemostatic value. Its action when administered hypodermically is not quite clear, some physiologists having found that the coagulability of the blood is increased thereby, others having failed to obtain such a result. Clinical reports are accumulating, however, and show that gelatine unquestionably may produce good results in cases of sacculate aneurism, hemophilia and the like. The pain of the injection is much diminished if the gelatine is carefully neutralized and if too much is not injected into one spot. Pus infections and tetanus may be prevented if the gelatine is sterilized with the same care that obtains in bacteriologic laboratories. Overheating must, however, be avoided, as otherwise the gelatine loses its power of becoming solid on cooling and thereby, perhaps, its hemostatic action. The pamphlet contains nothing new, but presents a resume that may be valuable to those to whom the current literature is not accessible.

DIE TECHNIK DER LITHOTHRIPSIE. Vorlesungen von PROF. F. GUYON in Paris. Ins Deutsche uebersetzt, von DR. GEORG BERG. Mit 23 Abbildungen. Wiesbaden. J. F. Bergman. G. E. Stechert, New York.

The necessary manipulative delicacy required to perform litholapaxy justifies the translation of a work of this kind into a foreign language. Guyon is, perhaps, the leading genito-urinary surgeon in the world, and a complete and carefully arranged work from his pen needs no greater recommendation than his signature. A feature of the work lies in the last chapter, in which a resume of the whole operation is given and each step illustrated.

DIAGNOSTIC GYNECOLOGIQUE, ORGANES GENITAUX ET MAMELLE. Par le DOCTEUR CLADO, Chef des Travaux de Gynecologie a l'Hotel Dieu, Ancien Chef de Clinique de la Faculte. Avec 109 figures dans le texte. Paris: A. Maloine, Editeur, 23-25 Rue de l'Ecole de Medecine. 1902. Price, 6 francs.

This book is the first of its kind in France. It is divided into three parts. The first part deals in detail with the various means to arrive at a gynecologic diagnosis. In addition to the usual modes of examination, the author lays special stress upon the advantages of hysteroscopy, and describes several instruments devised by him which afford a direct inspection of the uterine cavity. This method, originated by him and Duplay, has been adopted by several authorities in America, Germany, Austria and Italy. The author, in accord with most writers, rejects the indiscriminate use of exploratory puncture, and advises, instead, exploratory celiotomy, either per abdomen or per vaginam. The second part is devoted to a diagnostic consideration of affections of the genital organs. We consider the chapter on general phenomena subsequent to genital disorders especially praiseworthy. The third part of the book treats of the diagnostics of mammary diseases, the writer considering the female breast to be an annex of the genital system. Dr. Clado's work will prove of interest to the American gynecologist, who will only find fault with the inadequate illustrations.

LA NAISSANCE. LE MARIAGE ET LE DECES. Mœurs et Coutumes, Usages Anciens, Croyances et Superstitions dans le Sud, Ouest de la France. Par P. CUZACQ, Paris, Honore Champion, Libraire. 9 Quai Voltaire. 1902.

In this highly entertaining volume of two hundred pages the author describes the ancient customs, traditions, superstitions and ceremonies which are grouped around the main events of life (birth, marriage, death) in southwest France. Most of these old customs have disappeared, or are vanishing, before the progress of civilization, but there are still a great many left. Their origin is obscure. We believe the author deserves praise for this valuable contribution to the history of medicine, which will be of great interest beyond the limits of his native country.

CHIRURGIE DES OVAIRES ET DES TROMPES. Par A. MONPROFIT, Professeur de Clinique Chirurgicale a l'Ecole de Medecine, Chirurgien de l'Hotel Dieu d'Angers. Avec 260 figures dans le texte. Paris: Institut International de Bibliographie Scientifique, 93 Boulevard Saint Germain. 1903. Prix, 15 francs.

It is with great satisfaction that we have perused this excellent treatise on the surgery of the ovaries and fallopian tubes. Careful and exhaustive studies of the literature of the world have enabled the author to give in this work a complete description of all operations which have been performed on the uterine appendages. Each operative procedure is treated in a separate chapter, which

comprises the history of the development of the operation, the technic, the results of the interference, including accidents, either during or after operation, and, finally, the indications and contra-indications. Special interest is afforded by part II, which deals with the modern conservative operations on the ovaries and tubes. We will, here, only refer to the intra-abdominal massage of the ovary, the author's own method, to oophorotomy and the fixation operations on the prolapsed appendages. We warmly recommend this book to all operators, and, furthermore, to the general practitioner who aims to gain a judgment of his own on the indications for operative interference with lesions of the uterine adnexa.

PROGRESSIVE MEDICINE. Fifth Annual Series. Volume I, March, 1903. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, of Philadelphia. Octavo, handsomely bound in cloth, 450 pages, illustrated. Per volume, \$2.50, by express prepaid. Per annum, in four cloth-bound volumes, \$10.00. Lea Brothers & Co., Publishers, Philadelphia and New York.

It is only possible here to direct attention to the more important features in the present issue. Frazier, in the section on surgery, describes the progress which has been made in the surgery of the skull and brain. Herriek writes the section on infectious diseases. Crandall, in considering diseases of children, gives the latest advance in the methods of feeding and of milk modification. In the section of pathology, Dr. Hektoen devotes particular attention to the late studies into the specific properties of the various tissues and fluids of the body. A. L. Turner reports on the progress in laryngology and rhinology. The last article of the volume is written by Randolph, and is devoted to otology.

DIE CHLOROFORM UND AETHERNARKOSE IN DER PRAXIS. VON DR. KOBLANCK. Verlag von J. F. Bergmann, Wiesbaden. 1902. G. E. Stechert, New York, agent.

This little book of forty-two pages is written at the suggestion of the renowned surgeon, Professor von Bergmann, of Berlin. In a concise form it presents an exhaustive consideration of chloroform and ether anesthesia, dwelling upon the chemical and physiological effects of the two drugs, their special indications or contra-indications and the most commendable mode of their administration. This monograph will prove a reliable and useful resource in the responsibilities of every anesthetist.

THE CARE OF THE BABY. A Manual for Mothers and Nurses, Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. CROZER GRIFFITH, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, Philadelphia. Third edition. Thoroughly revised. Handsome 12 mo. volume of 436 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1903. Cloth, \$1.50 net.

The fact of a third edition of this book being called for within such a short time is sufficient evidence of its popularity. Every part of the book has been carefully revised and brought fully in accord with the latest advances in the subject. Several new recipes have been included in the appendix, and a large num-

ber of new illustrations have been added, greatly increasing the value of the book to mothers and nurses. Physicians will find this an excellent book to place in the hands of mothers.

THERAPEUTICS OF INFANCY AND CHILDHOOD. By A. JACOBI, M. D., LL.D.
Third edition. J. B. Lippincott Co. 1903.

In the preface to this new edition of his well-known work Dr. Jacobi remarks that the last four years have not added very much to pediatrics as a special science and art. Considering the enormous amount of special literature brought out in this period, this seems rather a severe arraignment from the Nestor of American pediatricists. And yet the justice of the remark strikes home if one but considers the status of one of the most important phases of the subject—that of infant feeding. The divergence of opinion is as great as ever, and will probably continue to remain so as long as infants insist upon being individualities, as Jacobi puts it. As in the other editions, one finds that Jacobi is still a great believer in the use of drugs. Indeed, one of the most valuable features of this book is that it represents the expression of individual opinion based upon actual (and enormous) clinical experience.

The general arrangement of the book remains as it was in previous editions, though the work as a whole has been revised and amplified.

Detailed criticism is, of course, impossible here; nor is it necessary. It is noteworthy, however (to single out one or two special conditions), that, under diphtheria, treatment is given in full, aside from the use of an antitoxin, of which Jacobi is, of course, an advocate.

The author is not convinced of the value of routine laparotomy in cases of tubercular peritonitis, a view in accordance with the latest expression of opinion on the subject from other sources.

As a whole, the book will doubtless continue to enjoy its immense popularity as one of our most valuable treatises on the treatment of diseases of childhood.

THE MANUAL TREATMENT OF DISEASES OF WOMEN. By GUSTAF NORSTROEM, M. D. Publisher: G. E. Stechert, New York. 1903. Price, \$2.25.

This book embodies the results of thirty years' experience in the manual treatment of gynecological diseases. The author has published several books on the application of massage to gynecology, his first contribution to the subject having appeared as early as 1876, and he certainly must be regarded as one of the most competent judges on the efficacy of this therapeutic measure. This volume contains a history of gynecologic massage, a very clear description of its technic, its indications and contraindications, and, instead of illustrations as we are accustomed to find in all the modern text-books, the writer uses the histories of cases of his observation in elucidating his doctrines. Although we cannot concur with the author in his belief of the curative effect of the manual treatment in several of his cases, and will not accept all his views on the physiologic effect of massage, we gladly admit that his book affords interesting reading and is capable of materially increasing the number of friends of this most valuable therapeutic agent in the treatment of gynecological diseases.

PRACTICAL POINTS IN NURSING. For Nurses in Private Practice. By EMILY A. M. STONEY, late Superintendent of the Training School for Nurses, Carney Hospital, Boston, Mass. Third edition, thoroughly revised. W. B. SAUNDERS & Co. 1903. Cloth, \$1.75 net.

In this volume the author explains the entire range of private nursing as distinguished from hospital nursing, and instructs the nurse how best to meet

the various emergencies of medical and surgical cases when thrown on her own resources. Much valuable information in a compact form is given in an appendix dealing with the feeding of the sick, containing recipes for invalid food and beverages, a dose list, and full glossary of medical terms.

There is no doubt that the work, in its third revised form, will maintain the popularity won by the earlier editions.

DISEASES OF THE SKIN. Their Description, Pathology, Diagnosis and Treatment, with Special Reference to the Skin Eruptions of Children, and an Analysis of Fifteen Thousand Cases of Skin Disease. By H. RADCLIFFE-CROCKER, M. D. (Lond.), F. R. C. P. Third edition, revised and enlarged, with 4 plates and 112 illustrations. P. Blakiston's Son & Co., Philadelphia. 1903.

The former editions of this work have been considered, in this country, as one of the best, if not the best, text-books upon dermatology in the English language, and this is saying a good deal when there are so many excellent treatises published. This edition places the work upon even a higher plane of excellence, as it is very much enlarged and improved, rendering it a most wonderful work indeed. The long experience of the author, together with his careful and scientific observations, have enabled him to become personally familiar with all the numerous diseases of the skin and their pathology. The book is replete with this personal element; it is writ upon every page, in every line, which is peculiarly refreshing in this day of quick compilation of books. Dr. Crocker is not afraid to express his opinion, and he is aware of its value. In his description of the various diseases he pays especial attention to their variations, thus drawing from the wealth of material he has enjoyed for years.

The few typographical errors detract little from the book, neither do the rather poorly executed illustrations, as there are so many other admirable features to commend it. No medical library can be complete without this classic, for it is a work which sheds honor upon the subject of dermatology, upon its author and publishers.

IMMUNITAET UND IMMUNISIRUNG. HOPF. Eine medizinisch-historische Studie. Tuebingen. Pietzker. 1902. G. E. Stechert, New York.

In this little work a good review of the historical evolution of our knowledge on immunity and immunization against toxins and poisons, against infectious diseases, and on the character and nature of immunity is given. The book is written for readers who without possessing special knowledge want to be elucidated about the problems that play today such an important part in the realm of biologic investigations.

BACTERIOLOGISCHES PRAKTIKUM. Fuer Apotheker und Studierende. Von JOHANNES PRESCHER und VICTOR RABS. Wuerzburg. Stuber's Verlag. 1903. G. E. Stechert, New York.

This little book contains short directions for the examination of urine, blood gastric contents, feces, sputum, water, milk, butter and margarine. It counts 112 small pages. It is characteristic that it is intended to be subservient to the benefit of druggists and students. It contains directions (half page) for the examination of cholera and typhoid material, a task before which the most experienced bacteriologist hesitates, in view of the immense responsibility. Books like this do not serve any purpose but to propagate charlatanry and superficiality.

TASCHENBUCH FÜR DEN BACTERIOLOGISCHEN PRAKTIKANTEN. Von RUDOLF ABEL. Wuerzburg. Stuber's Verlag. 1903.

The volume is well known and appreciated. The new edition contains additions and changes corresponding to the progress of bacteriology and is in every respect up to date. New chapters have been added, among these one on the procuring of material for examination. If one wish can be expressed, it is that in a following edition this chapter be extended to the including of the methods of obtaining blood *intra vitam* from the different animals used for experimentation. None of the more recent books on bacteriologic methods enters into this very important subject. Abel's Taschenbuch will remain a favorite in the bacteriologic laboratory.

DIE ARZNEIMITTEL DER HEUTIGEN MEDIZIN MIT THERAPEUTISCHEN NOTIZEN. ZUSAMMENGESTELLT FÜR PRAKTISCHE AERZTE UND STUDIERENDE DER MEDIZIN. VON DR. OTTO DORNBLUETH. Neunte Auflage. Wuerzburg: A. Stuber's Verlag (C. Kabitzsch). 1903. G. E. Stechert, New York.

This little volume, of a size readily slipped into the pocket, is a continuation of the annually revised book with a similar title, formerly edited by O. Roth and G. Schmitt. After a few short chapters devoted to the systematic grouping of *materia medica*, to a sketch of hygienic and dietary procedures and the like, an alphabetical list of all the drugs used in modern medicine is given, with origin, therapeutic usefulness, toxicology and dose of each. In many cases, where the method of administration is not indifferent, specimen prescriptions showing how the drug may be most efficiently or most palatably given are appended. While those remedies of the old *materia medica* that are still often used are not neglected, most space and attention has been given to the newer remedies—and it is in this field that the little book is most valuable and complete. It is astonishingly up-to-date. Thus it contains an account of rodagen and of roborat-anamyl bread, two of the most recent additions to our therapeutic armamentarium. We are informed that anesthesin, eucain A., and the notorious antimorphen have been withdrawn from the market. A therapeutic summary and a number of tables close the valuable little volume.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioners' Index. Pages 739. Illustrated. New York: E. B. Treat & Co. 1903.

With this issue the Medical Annual reaches its twenty-first year. It presents, as did its predecessors, a well-ordered synopsis of the year's progress. In it will be found a discussion of all the more important advances in medical knowledge, while on the other hand little effort seems to have been made in recording matters of disputed value. Thus no mention is made of the treatment of Grave's disease by means of the milk of thyroidectomized goats or of the active principle of this milk called rodagen. Anesthesin, theocin, mesotan and other synthetic products that promise to be of value are not mentioned. Completeness would, however, demand a much larger volume, and on the whole the question as to what should be included and what excluded has been satisfactorily solved.

INTERNATIONAL CLINICS. Vol. III. Twelfth Series. Philadelphia: J. B. Lippincott Co. 1902.

As usual, this number of the International Clinics contains a number of very interesting and valuable articles, and fully maintains the high standard set up by its predecessors. Two of the most interesting lectures are at the end of the volume—one on the function of the digestive glands, based on the researches

of Prof. Pavlof and his pupils; and another, a critical study of the theory of inflammation, by Hans Schmaus. James J. Walsh contributes a study of the insect pests of human beings, illustrated by well-selected cuts, chiefly from the Fifth Bulletin of the Department of Entomology. Is it due to a printer's error that he recommends a fifty (*sic*) per cent. solution of carbolic acid? In a report of a case of leucemia following an attack of malarial fever, the common mistake is made of interpreting a history of chills and fever preceeding the discovery of the leucemia as a malarial infection. The early stage of the leucemia itself is quite able to produce rigors and fever such as are usually supposed to be characteristic of malaria. In two interesting articles G. M. Deboe and Prof. Cardarelli advocate the more frequent employment of surgical intervention in persistent gastrectasy. One of the most valuable chapters is an article by Prof. Brinton on some effects of fire-arms at short range, admirably illustrated. The volume will well repay perusal.

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ORIGINAL ARTICLES.

SIMPLICITY IN DEALING WITH ABSCESS OF THE APPENDIX.*

BY PAUL Y. TUPPER, M. D., of St. Louis, Missouri.

I submit a plea for extreme simplicity in the operative interference called for in appendicitis cases with abscess formation. That the subject is of vital importance needs no argument. So often has death followed operation in such cases that the laity hail with alarm the statement that pus is present or imminent in appendicitis cases. In a large majority of cases this, as far as the life and safety of the patient is concerned, should be rather encouraging than otherwise—the greatest danger being the prospect of a lingering convalescence, or probably ventral hernia. My personal observation leads me to believe that the danger of operative procedure is practically *nil* when the operator simply opens the abscess and secures free drainage. Most operators tell us that this is their custom, but in almost all cases something else is done, and it is this something—little though it apparently be—that carries with it a danger which so frequently compromises, if it does not sacrifice, the life of the patient. I hold that at the time of the operation the operator's full duty is done when the abscess cavity is opened, the opening sufficiently enlarged and a suitable drain introduced. The removal of the appendix is not only not indicated, but the slightest search for it is unwarrantable. Observation shows that when an abscess forms as the result of appendicitis, the appendix, in the large majority of cases, has sloughed off, or is so nearly destroyed that it ceases to act as a foreign body and is no longer a menace to the patient's future safety. Moreover, if the stump of an ulcerated appendix be found, it cannot, because of its condition, be properly removed. The best that can be done by the ever-zealous operator is to throw a ligature about it and cut it off, if the ligature itself does not do so when tightened. Because the ligation and section are made in tissues necessarily thickened, infiltrated and probably necrotic, no healthful repair can be expected. A fecal fistula, if not existing or imminent, is at least likely. A greater danger than this, however, is the likelihood that the gentlest manipulation made in handling or even searching for the diseased appendix, will disturb the protective adhesions and carry infection into uninfected areas. We have no means of determining by touch or otherwise when these adhesions are strong or weak. On occasions the abscess cavity has been ruthlessly explored and possibly the stump of an appendix delivered from its depths and removed by ligation or cautery, or maybe pulled off, and no new infection has ensued, still this step cannot be taken in any degree without grave danger to the patient. I have seen abscesses opened into and then adhesions deliberately broken up in searching for the ap-

* Read before Missouri State Medical Association, April 22, 1903.

pendix, as if nature is apt to shut off from the cavity and hide in a mass of adhesions the foreign body causing the destructive act. The diseased appendix may be incorporated in the walls of the abscess cavity and for all we know forms in part a barrier shutting off and conserving the safety of the general peritoneal space.

Moreover, the cavity should not be irrigated or mopped out. Greig Smith aptly says: "To wash out septic contents is not purifying an abscess, the micro-organisms still remain in the abscess wall. . . . It must be admitted that we cannot render aseptic the putrid appendicular abscess; that it must be drained; and that nature properly assisted will provide the cure. It is a waste of time and a risk to wash out the abscess and attempt the purification of its walls. If efficient drainage is made, all is done that need be done."

My method of operation is the simplest possible. The abscess cavity is entered in the most direct way, the greatest care being taken, of course, to avoid the peritoneal cavity. As soon as the abscess is located and opened, the finger is cautiously introduced into its cavity and its general dimensions and direction noted. With the finger still in place the opening is extended the full length of the abscess cavity, if possible. Then, without washing or wiping out the cavity, or without once withdrawing the finger, a strip of gauze of sufficient length for drainage—not packing—is carried with a pair of forceps along the finger to the bottom of the cavity. If distinct cavities are found in more directions than one they are similarly drained. The ends of the gauze are left hanging from the wound, and a moist dressing, under rubber protective, is applied. Until the gauze loosens itself I rarely remove it, satisfying myself with simply changing the outer dressings as they become soiled. When the drain becomes loose, I remove it, reapplying another. The cavity is not washed out for several days, and then only with the greatest care, using sterile water and a large soft catheter for the purpose. Later, when sure that the cavity is well walled off, I may use peroxide of hydrogen, etc., for irrigation. From this simple procedure, which I have practically always adhered to, I have yet to see a patient derive other than comfort or fail to convalesce satisfactorily. I do not search for the appendix, nor do I interest myself in its whereabouts. As yet I have never had to operate the second time for the removal of an appendix or its stump.

Have we not all seen cases like this—a patient with a characteristic history of suppurative appendicitis, localized, the mass has formed, the temperature receded to about 100° , and no special discomfort is experienced. A section is made, an abscess cavity opened, more or less of a search is made for the appendix, possibly the cavity is irrigated or mopped out and drained. The patient comes from under the anesthetic in pain, is far less comfortable than before the operation, and soon every evidence of acute peritonitis is apparent. The usual outcome of a condition like this is too well known. My conviction is that such calamities can be averted by simplifying as I have indicated, our operative technic in cases of walled-off appendicular abscesses.

ETIOLOGY AND PATHOLOGY OF PUERPERAL ECLAMPSIA.

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The etiology of eclampsia is a subject which is now receiving the universal attention of those interested in obstetrics. Experimental investigations together with clinical observations are being conducted on every hand in an effort to solve the problem which has long been a source of the greatest annoyance to the obstetrician. Up to the present time it has baffled the most careful investigation, and in spite of the many theories that have been propounded on the subject, we are probably as far from an exact solution today as we have been at any time. Notwithstanding the present unsettled, I may say chaotic, state of the literature on the subject, a general review will not be without interest. Through comparison and exclusion, we may be enabled to approach, at least, a rational view.

Much has been accomplished during recent years with reference to the pathology of this affection, and though this is by no means on a firm footing, the investigations along these lines have thrown much light on the true nature of the phenomenon. The study of the pathology has already enabled us to discard some of the older theories which had become thoroughly implanted and were accepted by many as the logical explanation of eclampsia.

We must understand by eclampsia a disease occurring during the period of gestation, with clearly defined and characteristic symptoms. There is doubt now only in the minds of a few that eclampsia is a disease *per se* and not merely a symptom, as was previously supposed.

It is only natural that the early observers should have attempted to define and locate the trouble according to its characteristic symptoms. In 1843 Levers found that the urine of eclamptic patients constantly contained albumen. This led to the application of Fredrick's theory of uremia in eclampsia; namely, that it was due to a diseased condition of the kidneys which resulted in an intoxication of the blood through the retention of urea and ammonium carbonate. Uremia and eclampsia were at once placed in the same category, the latter name being applied to uremia when met with in pregnant women. This view is no longer tenable, for neither urea nor ammonium carbonate is found in the blood of eclamptics. Braun and Spiegelberg (18), however, report four exceptions to this rule. Experiments have shown, too, that these chemicals do not cause convulsions, except when introduced into the blood in large quantities. Again, eclampsia often exists when neither the chemical nor the pathological findings indicate any involvement of the kidneys. The number of cases in which we fail to find albuminuria varies, according to different clinicians, from eight to sixteen per cent. This would represent far too great a discrepancy, if we were to accept the kidney as the prime factor in the etiology of this condition. Autopsies likewise verify this statement, for there are a great many cases reported from reliable sources in which the kidneys reveal nothing. Ingerslev, for instance, collected one hundred and six such cases. Furthermore, if this were the true explanation, we might expect a predisposition to eclampsia on the part of all pregnant women who have previously suffered from nephritis. This again is not the case, for uremic individuals seem in a measure immune from eclampsia.

Traube (19) did not accept the theory of toxemia of renal origin in uremia, but ascribed it to the protracted loss of albumen through the urine. This resulted in an hydremic condition of the blood, along with an hypertrophy of the left heart. These factors caused an increase in the blood pressure in the arteries, the result of which was an edema. Secondary to the edema there developed cerebral anemia, and from this there resulted coma and convulsions. Rosenheim applied this theory to eclampsia. According to him, there exists in pregnancy hydremia, hypertrophy of the heart, and increased arterial pressure during the labor pains. This view cannot be accepted. It has assumed entirely too much as proven. We are not willing to admit the presence of pronounced hydremia in pregnancy, and surely not that an edema of the brain need necessarily cause anemia. That an acute anemia may be the direct cause of the convulsions may be conceded, but, if such is the case, it is nothing more than a transitory anemia, due to vasomotor action. Post-mortem examinations have shown hyperemia of the brain in these cases, equally as often as anemia. Examinations of the urine and blood have added little to our knowledge of this subject. If there is a toxemia at all, it is of such a sort that our present methods of investigation have failed to recognize it.

Bouchard (10) and recent investigators, foremost among whom may be mentioned Ludwig and Savor (17), regard eclampsia as an autointoxication, due to the retention of toxic material in the blood. They claim to have found a toxine in normal urine, which is decidedly decreased during eclamptic attacks. Furthermore, they were able to detect this toxic material in the blood serum of the pregnant woman, and in a greatly increased quantity during eclampsia. The results obtained by these observers have not been corroborated by recent investigators. Volhard was the first to attack the accuracy of their findings; since this time they have been attacked by so many careful observers that we seem justified in concluding that there was something faulty in their method of procedure.

Schumacher (22) has recently published an interesting piece of work, in which he verifies the results obtained by Volhard. He demonstrated that many points must be considered before one is justified in drawing conclusions from experimental work. This Bouchard and his followers failed to do. For example, in order to determine the toxicity of a fluid it is necessary to determine its temperature, the amount of pressure used in injecting, the chemical reaction, the specific gravity, and, chief of all, the condition of the animal employed. Schumacher lays great stress upon the specific gravity of the fluid. He found that of urine with a specific gravity between 1006-1012, 45.6 ccm. could be injected for each kilogram of body weight, with a specific gravity between 1012 and 1018 only 25.7 ccm., and between 1018 and 1024, 22.5 ccm. was the toxic dose. This was true regardless of the source of the urine; whether from a normal individual, a pregnant woman, or even from an eclamptic. The normal blood serum and that of the eclamptic showed no appreciable difference as to toxicity. These results have been verified by many investigators.

Halbertsma (15) in 1884, believing that the urinary tract was the source of the evil in eclampsia, and concluded it was due to a compression and dilatation of the ureters. Great stress cannot be given to this view, for the same condition is found in large ovarian tumors, and in labor when the head has not yet entered the pelvic inlet; yet convulsions do not occur here. Kundurat (18) has also

advanced a theory based upon compression of the ureters. He attributes the same to a high division of the aorta, and the peculiar anatomical position of the ureters at the pelvic inlet, caused by such a division. Herzfeld (11) has recently attempted to uphold this view, while Strassman (14), after a long series of observations, opposes it.

Strumpf (16), having found acetone in the urine of eclamptic cases, was inclined to regard this as an important factor. Acetone is one of the end-products of nitrogenous metabolism and is often found in cases in which these are rapidly consumed, as in fevers.

During recent years the liver has come in for its share of the blame in eclampsia. The probabilities are, however, that the same mistake is made here as in the case of the kidneys—too much stress is laid upon symptomatology. Pinard, Budin and other French authorities have promulgated this view. They believe that the metabolic function of the order is disturbed through some pathological lesion, so that it permits substances taken up from the intestinal tract, or from other sources in the organism, to pass through it without undergoing the metabolic changes necessary to render them harmless. The supporters of this theory consider the frequent existence of icterus in eclampsia as significant.

Schmorl (9), in his report of seventy-three cases, found the following pathological changes in the parenchymatous organs: The kidneys, in all of the cases except one, showed degenerative changes (cloudy swelling and fatty degeneration) of the functioning epithelium. An occasional case showed necrosis of the epithelium. Thrombosis was often met with in the glomeruli and small veins and arteries of the kidneys. In seventy-one cases the liver showed similar changes, in addition to hemorrhagic and anemic infarcts. The cases in which infarcts were not present had fresh thrombi in the portal vessels. The extent of the changes in the liver did not go hand in hand with the frequency of the convulsions. In ten cases icterus was present. These observations would indicate that the changes in the liver are not more pronounced than in other parenchymatous organs, and are not as constant even as are the lesions in the kidneys. In the face of these facts, we are scarcely justified in considering the liver an etiological factor.

The observations of Schmorl would indicate that there is in the blood of eclamptics something which increases its power of coagulation. The thrombi found in all parts of the body point to this. Schmorl was at first inclined to explain this thrombosis by the presence in the circulation of syncytial cells, but further investigation revealed their presence also under normal conditions.

Volhard claims to have found a substance in the urine of eclamptics which promotes coagulation; while Kollman states that the blood has a higher fibrin per cent. in these cases.

The convulsions and coma which are always present in eclampsia have naturally led observers to turn their attention to the nervous system as the possible origin of the attacks. Anemia of the brain seemed to these to be the most logical explanation. Kussmaul showed experimentally that cutting off the internal blood supply to the brain always results in convulsions. The report of Schmorl, however, did not show anemia to be a constant factor. In sixty-five cases, forty-eight showed hemorrhage and softening. These lesions in the brain were, however, very small, not larger than a pea, and usually occupying the cortex. These were explained by the presence of thrombi in the smaller vessels, a con-

dition which was also found in other organs. In some cases this was doubtless caused by an increased pressure during the labor pains. At present we have no reason to accept the view that a functional disturbance in the brain should cause the anemia.

The question of an increased excitability of the nerve centers has recently met with some consideration. That this exists but few doubt, but it cannot be regarded as an exciting cause. Blumreich and Zunzt (4) have conducted some very interesting experiments along this line. They have shown that the motor centers, during pregnancy, really are in a state of increased excitability toward stimuli. Rabbits were trephined and kreatin was applied directly to the motor area. It was found that a much smaller quantity was necessary to produce convulsions in the pregnant rabbit than in the non-pregnant animal. Blumreich (5) has recently attempted to prove that the nerve centers of a pregnant rabbit react to toxins (due to urine retention) much earlier than do those of the non-pregnant. It is a well-known fact that in the treatment of eclamptics all operative procedures must be carried out under anesthesia, for the slightest external stimulation tends to produce convulsions. Even loud noises have been known to provoke the attack. Taking all of these points into consideration, one must consider the excitability of the nervous centers as a factor in the production of eclampsia. We cannot accept it, however, as the prime factor; it is, in all probability, secondary to some other cause.

The great similarity between the convulsions and coma of eclampsia and epilepsy has prompted neurologists to consider them in the same category. Nothnagel (19) regarded the irritability of the vaso-motor and motor centers as the primary factor in both, being in eclampsia an acute, transitory form, while in epilepsy it is chronic. Were this true we would expect all epileptics to have a certain predisposition to eclampsia. The contrary is true, however; they seem to possess a form of immunity. Glockner (12), however, recently reported five cases in which he claimed to find an existing relation between the two conditions. Though the clinical picture of these conditions are very similar, the differential diagnosis is comparatively simple. In the one case we are dealing with a condition which occurs only during gestation, appearing suddenly, and, unless fatal, rapidly disappears; while in the other we have a chronic condition, appearing at any time of life. The urine, too, aids materially in the differential diagnosis.

Ahlfeld (1) considered the placenta the source from which a toxine, formed through the fetal metabolism, and in the sinuses of the placenta, pass into the maternal circulation. Czempin (13) has recently come forth with a theory, claiming that the metabolic products from the fetus pass into the placenta, a part of it being rendered harmless here is permitted to pass into the maternal circulation, while the remainder is stored up in the placenta. Should some pathological condition exist which prevents the placenta absorbing the toxine, it enters the maternal circulation unchanged, and produces eclampsia. No pathologic lesion has been found, which might be considered pathognomonic of eclampsia. The hemorrhages into the placental tissue and the white infarcts which have often been reported, are very likely the results of nephritis and endometritis.

Schmorl (12) found in his post-mortems on eclamptic cases that syncytial cells were found in all organs of the body and was ready to make this the etiological factor. His theory was so framed that even those cases where the con-

vulsions did not occur until after labor, could be explained by the retention of a cotyledon of the placenta. Many recent investigators, Veit (22), Poten (8), and others have found in normal labor cases not only syncytial cells, but entire chorionic villi.

Just at this time, when the lysins are being investigated upon every hand, eclampsia has not escaped. The fact that syncytial cells were found in all cases made this a rational field of investigation. Veit (12) was one of the first to work along this line. He found that by injecting the placental cells of a rabbit into the abdominal cavity of a goose, the blood of the latter was destructive to the rabbit placenta. Veit is inclined to regard the toxins of eclampsia as due to a dissolving of the syncytial cells in the maternal circulation. Halban (22), experimenting along the same line, found that the blood of the mother and fetus had an agglutinating action upon one another. Fehling (22) thinks that this may prove the source of the fibrin-producing substance. Naturally at present it is impossible to offer any comment on this series of experiments, for they are still in their infancy. Should this theory prove correct, we would have a means of explaining all those conditions common to pregnancy, such as nausea, vomiting, etc., and likewise hopes for an antitoxine.

Still holding to the theory of intoxication, Delore first advanced the idea of its being an ectogenic intoxication of bacteritic origin. The clinical appearance does suggest in some ways an acute infection. Doleris, Poney, Blanc and others claimed to have found circulating in the blood, germs which they regarded as being the source of the infection. Gerdes reported having found a specific germ, but Hofmeister showed this germ to be nothing other than the proteus vulgaris. Albert (6) and Mueller (7) have recently come out in support of this view. Albert, examining the placenta from six cases of cesarean sections, claims to have found bacteria in two of them, not, however, a specific germ. According to him, eclampsia is an intoxication caused by a toxine formed in the decidua by bacteria. This theory is too unstable to justify further consideration.

Climate has been regarded by some as of no little significance. This condition could act only by interfering with the proper excretory functions of the organism.

Mention need only be made of the fact that some few regard the thyroid gland as an etiological factor in eclampsia. Normally in pregnancy we find an hypertrophy of this gland, while in eclampsia it is claimed that this is absent. Nicholson (23) and Hergott (3) report good results from the use of thyroid extract.

We have reviewed all of the considerations relative to the maternal organism which has been regarded as the source of eclampsia. A thorough condensation of all these theories, experiments and investigations brings us to but one indisputable fact, and that is that we are dealing with an intoxication. One source from which this toxine may come has not been discussed, namely, the fetus.

Nehling (21), in an article written a few years ago, called attention to the fact that all, except von Winckel and Stumpf, had entirely disregarded this source. At the Gynecological Congress in Giesson in May, 1901, the subject of eclampsia was chosen as one of the principal themes. Fehling, who prepared the Referat for the occasion, presented the following view: "The fetus, having its own metabolism, produces substances which are carried into the maternal

circulation through the placenta. If the excretory function of the mother is equal to the occasion, we note no bad effect; if, however, such is not the case, eclampsia is the result." Many investigators who had been experimenting along this line could confirm his views; and at this congress they were well received.

Fehling (22) asks why, if the child is to be left entirely out of consideration, do we find this condition only during pregnancy, and why in almost every case is the mother relieved at once by delivery.

That the fetus has its own metabolism, all are willing to concede, and that this increases toward the end of pregnancy, especially during the last two months, is certainly true. At once we have an explanation of why eclampsia rarely occurs during the early months. How are these poisons to be excreted unless through the maternal organism? We know that the excretory function of the kidneys of the child during intrauterine life is not sufficient. Ahlfeld (2) claims that the kidneys do not excrete at all during this stage. It seems then only natural that the excreta from the fetus should be disposed of through the maternal organism.

Dienst (20), who had occasion to make post-mortem examinations on three children from eclamptic mothers, found exactly the same lesions which have been found in the mothers, namely, cloudy swelling, degeneration, hemorrhage and especially pronounced infarct building. Koenig and Futh found that the blood of the mother and child showed the same osmotic pressure. These findings can be explained in only one way: There must be a continual interchange of chemical substances between mother and child, which make Fehling's view, that the ~~toxine~~ can come from the fetus, very plausible. Furthermore, the existence of the same pathological changes in the fetus as in the mother, shows that these changes, which have always been found in the parenchymatous organs of the eclamptics, and which have always been regarded as prime factors, need not necessarily be accepted as such. We have every reason for regarding them as secondary to the ~~toxine~~ circulating in the blood. By accepting this as true, we do not assert that the condition of the maternal organism does not play a role in the development of eclampsia. The present theory accepts the view that the maternal organism is not excreting properly, but the cause of this need not be confined to any one organ. It is the retention of a small amount of ~~toxine~~ from the fetal organism which tends to bring about the changes in the different organs and then produces a further retention.

Dienst (14) has made some very interesting experiments. Two rabbits of equal weight were employed. The right kidney of each was extirpated, and one of the rabbits was at once permitted to become pregnant. The pregnant animal developed, after eighteen days, convulsions and died, while the other one remained perfectly normal. The post-mortem showed, on the pregnant animal, exactly the same changes as are found in the organs of an eclamptic. He found that he could bring about the same results much quicker in cases in which he produced an aortic insufficiency and removed a portion of the liver in addition to extirpating the kidney. This shows, experimentally at least, that there must be some interference with excretion in order for eclampsia to develop.

It is perfectly clear that with this condition present, we would at the latter stages of pregnancy have the maternal organism poisoned by ~~toxines~~ from two sources. We have in this theory the means of explaining most of those conditions peculiar to eclampsia.

The most difficult question for solution is, why do we find the condition in primiparæ more often than in multiparæ? Would not a form of immunity explain this?

There are, of course, many points to be further developed before we can accept the fetal theory, but it seems the most rational of those that have yet been offered.

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SYMPTOMS AND DIFFERENTIAL DIAGNOSIS OF PUERPERAL ECLAMPSIA.

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Few, if any, conditions met in obstetrics exceed in importance and gravity that of eclampsia. Often apparently so sudden in appearance, so unexpected and terrible in its onset, so disastrous to mother and child, taxes the physician's resources to the utmost, demands of him self-possession, prompt and efficient action, coupled with sound judgment and all considered plans of treatment. He who assumes to do obstetrical work must ever be on the alert for, and know the value of, the many danger symptoms manifest during early or latter months of pregnancy.

We voice the unanimous consensus of opinion in stating the work, the responsibility, the earnest solicitation of the obstetrician on behalf of his patient increases in intensity with his increased knowledge and personal experience. He who assumes charge of the pregnant woman or enters the maternity room with indifference, evincing no degree of anxiety as to gestation or labor and its consequence, is usually an unsafe person, incapable of interpreting symptoms or reading aright the many danger-signals, should they be present.

The old and oft-repeated statement that pregnancy is (shall we say may be) a physiological process, that the pregnant and parturient woman will do well if left to nature, may have been true in primitive times, but members of the profession who are to-day engaged in delivery of the legitimate offspring of modern civilization with all the abnormalities this implies, know full well there is a pathological side to obstetrics, and the physician will not travel far along the road in this department without encountering frequent deviations from the normal.

In order to intelligently interpret the slight as well as the graver abnormal symptoms arising as gestation advances, it is absolutely necessary to all concerned that the physician see and know something definite of his patient's general make-up and previous condition before the onset of labor. Hence, we claim that the prospective mother in placing herself under the care of her physician should receive from him as careful an examination as if she were to pass for life insurance.

The phenomenal changes produced in the maternal organism in consequence of gestation are calculated to exercise a marked influence and are more or less responsible for much of the symptomatology manifested during pregnancy. In obedience to the increasing demands of the system made necessary to maintain double life, the blood is increased as well as materially changed in its constituent parts. There is a marked increase in the water and fibrin-making elements and likewise the white corpuseles; the red are supposed to be relatively diminished.

It is very important in summing up the factors entering into the symptomatology and differential diagnosis of eclampsia, to remember the increased functions, changes in shape, size and position, as well as relations of organs affected by gestation. You doubtless remember the remark made by the Village Maiden about Marguerite in "Faust," that "she feeds two." She spoke better than she knew, for literally the pregnant woman breathes, furnishes blood, nutrition, secretes and excretes for herself and child.

So soon as one or more of the different organs fail for any considerable time to perform its normal function, the crippled condition is announced by the respective danger symptoms, warning the attendant of the impending storm. We cannot too strongly emphasize the fact that eclampsia in its mild or severest paroxysms is but a symptom, the expression of a toxemia furnished not by single, but a number of unknown toxins produced in the body by mother and child, accumulating in consequence of failure of excretion or imperfect metabolism. The all-important question for solution in considering the above phases of the disease is, how early and with greatest degree of safety and certainty are we enabled by history, transitory, prodromal or association of symptoms, to diagnose impending eclampsia?

The clinical history under rare conditions may appear as early as the third month, but usually they are not encountered before the second half of gestation, increasing near the close of full term.

The symptoms may vary, since they are due to different kinds and degrees of toxic agents. The different clinical findings, which are instructive in arriving at a diagnosis, differential or otherwise, are expressions of *inaction*, rarely overaction, of the organs of secretion and excretion, and demonstrate beyond a doubt that the symptoms point to failure of the great emunctories of the body.

SYMPTOMATOLOGY.

While the onset of the eclamptic attack is sudden, yet careful analysis of the complex causes responsible for the same, with a correct interpretation of the symptoms as they arise, shows it usually to be of slow origin. That is a gradual intoxication, manifested through gastric, renal, nervous, hepatic, cutaneous and circulatory disturbances. There are many minor conditions appearing now and then during pregnancy which would count for little as symptoms standing alone, but when associated with others, they are valuable as indicators. We refer to the various so-called insignificant ills, as early attacks of indigestion, variations of temperament, etc. The sweet tempered becomes morose, or associated with fear, loss of confidence in physician and friends. Likes and dislikes are magnified or completely changed. These are followed by additional signs of danger, as neuralgia, nausea and pernicious vomiting, insomnia, anemia and melancholia; such should be regarded with suspicion, requiring careful examination of the patient and a thorough inquiry as to the secretions and excretions. Usually from the sixth month of gestation the more classic symptoms make their appearance, as constant headache, gastric disturbances, hepatic torpidity, increased nervous irritability, impaired memory, dimness of vision, urinary secretions and urea diminished. Serum albumen as met in the urine may be a symptom of normal pregnancy, but so soon as it becomes excessive, associated with kidney debris, indicating progressive nephritis, it becomes a positive danger symptom. We regard albuminuria as a symptom which may or may not be accompanied with structural lesions. We may have any of the known lesions of the kidney, occurring in the pregnant woman the same as met with in other persons, and should it antedate gestation, we have the renal disturbances manifested earlier in gestation coupled with graver prognosis. In diagnosing threatened eclampsia we should remember that the toxins responsible for the array of symptoms, causing consequent convulsions, do so from the fact that they are largely absent from the urine and excretions, retained in the serum of the blood and various organs of the body. The healthy pregnant woman should pass forty to sixty ounces of urine daily with specific gravity of 1010 to 1018, total solids 1000 grains and one and one-half to two and one-fourth per cent. of urea, or three hundred or five hundred grains daily. If it fall short of one per cent. it should be regarded as insufficient, and means should be employed to increase it.

Clinical observation has shown that some patients are very susceptible, while others resist the eclamptic poison to a remarkable degree. In the latter class the prodromal as well as the more classic symptomatology is frequently manifested, causing one to predictate an eclamptic seizure, yet we are agreeably surprised to find many such, when placed on proper treatment, are delivered without convulsions. With the elimination of a normal amount of urea, many women go through pregnancy and labor showing well-marked albuminuria, but free from eclamptic seizure.

PRESSURE SYMPTOMS.

The mechanical compression of the ureters and renal vessels by increased growth of uterus has been regarded as responsible for some of the toxic symptoms, while the kidney of pregnancy is often an engorged and overtaxed organ; yet that we have in gestation a mechanical element alone of sufficient nature to account for an eclampsia has not been fully proven. Clinical experience has

demonstrated that patients may suffer from pelvic adhesions, subinvolution, large fibroids and ovarian tumors, as well as various neoplasma affecting the size and position of pelvic and abdominal organs, even though exerting longer and more severe pressure than is met with during pregnancy, and accompanied by symptoms referable to gastric, vascular, renal, hepatic and nervous disturbances, with œdema, general impaired health, etc., yet never associated with or followed by eclampsia. Clinical history and experience have proven that the symptoms and attacks occur most frequently during labor; next, in the last semester of pregnancy, and least in the puerperium. There are a variety of predisposing and exciting causes which should be carefully considered as factors in causing the symptoms of threatened eclampsia, as the young or old primipara, tense abdomen, small pelvis, large fetal head, malposition of child, prolonged labor, twin pregnancy, pre-existing neurosis, or disease of the heart, liver or kidneys, great mental strain or shame, as in the case of illegitimacy, constant domestic worry, overcrowded apartments or tenement dwellers, coupled with lack of exercise, chronic constipation and unhygienic surroundings and improper food.

The more prominent symptoms and signs, comprising the clinical index of the pre-eclamptic state, are indicated by coated tongue, dry skin, mental hepitude, pronounced nervous irritability, disturbed vision, with or without albuminuric retinitis, headache, epigastric pain, increased arterial tension, œdema of face, hands and feet, diminution of all excretions, liquid or solid.

In the light of modern investigation, eclampsia may be defined as an acute disease, appearing during gestation, labor and puerperal, manifest by a series of clonic and tonic convulsions, affecting voluntary and involuntary muscles, with loss of consciousness. The seizure is similar in type to the well-recognized epileptiform convulsion. A distinct aura or stare may initiate the paroxysm, the eyelids twitch, spasms of the facial muscles, mouth drawn to one side, tongue injured, oscillating of the pupils, insensibility to light, rolling of eyeballs, cyanosis, the spasm involving muscles of chest, trunk and, later, lower extremities, respiration is impaired, unconsciousness, clonic and tonic convulsions, lasting from one-half to two minutes, with coma, pulse weak and rapid or full and bounding, ranging from 100 to 140. Temperature from near normal to 101 or 104, usually rising with each succeeding paroxysm.

DIFFERENTIAL DIAGNOSIS.

While the diagnosis of eclampsia would at first seem an easy task, the mere occurrence of a convulsive seizure during gestation, labor or puerperium may be other than eclamptic, appearing with or without unconsciousness, they are indicative of a number of pathological conditions. Hysteria, as met during pregnancy, illustrates forcibly the fact that during gestation intercurrent or pre-existing conditions are always exaggerated, showing the mental and physical strain followed by a varied degree of nervous manifestations. Hysteria becomes dangerous when the attacks assume a form of maniacal excitement. It may be usually excluded from the history of the case and character of the convulsions. The negative history of the disturbance of circulation, absence of fever, cyanosis, coma or œdema; the fact that consciousness is not entirely lost, during the convulsion; that certain sets of muscles of the head, trunk, upper and lower ex-

limbs are involved, the absence of the stigmata of hysteria, will all tend to exclude hysteria. In hysteria larger quantities of clear urine are voided, free from albumin and casts. The convulsions frequently terminate in fits of laughter and crying, conditions not dangerous to either mother or child. A mild form due to the irritable, nervous condition is present in many pregnant women, and under such circumstances the most trivial cause may precipitate hysterical paroxysms.

Epilepsy during pregnancy presents the most striking resemblance to eclampsia, differing from it by lack of rapid succession of convulsions and immediate danger to life. There is the aura, loss of consciousness and sensation, with a degree of cyanosis, followed by twitching of the facial muscles, clonic and tonic convulsions, with coma, patient falling, frequently causing bodily injuries.

In differentiating from eclampsia, we have the history of previous attacks, the single seizure in the present attack and absence of prodromal symptoms of eclampsia. The urine is usually normal in amount and free from pathological findings. There is disturbance of circulation, but no fever or œdema. The disease, as a complication of pregnancy, is somewhat rare, largely from the fact that the majority of epileptic women are sterile. The disease appears to exercise no unfavorable influence to the course of gestation. In some cases the frequency and intensity of the paroxysms are lessened, in others the disease becomes aggravated. It seldom appears for the first time during pregnancy or labor.

Apoplexy is rarely encountered during gestation. Its most frequent occurrence is as a complication of eclampsia. When independent of the latter, it is generally from emboli, associated with endocarditis or following phlebitis of the lower extremities. In differentiating from eclampsia, we are assisted by the existence of pregnancy, age of patient, history as to habits, brain, cardiac or kidney disease, absence of convulsions, prolonged stupor, slow pulse, low temperature at the onset of the stroke, with paralysis and relaxed sphincters.

We are informed by the preceding paper that the pathogenesis of eclampsia is unsettled, hence we cannot call it a pathologic entity, but find presented for diagnostic consideration an array of symptoms and signs indicative of different toxic agents, as manifest through the various organs, responsible for the many danger-signals in the make-up of eclampsia, whose nervous deviations vary in irritability and intensity, including all grades, from mere twitching to clonic and tonic convulsions, coma and death, occupying the unique position of having no parallel in the human economy, save in the pregnant and parturient woman.

TREATMENT OF PUERPERAL ECLAMPSIA.

By B. M. HYPES, M. D., of St. Louis, Missouri.

Not only is puerperal eclampsia one of the most dreaded calamities that may befall the pregnant and lying-in woman, but I know of no other that, at the present day, is so universally occupying the mind of the medical profession. The clinicians are studying it; the pathologists are devoting their most earnest efforts to discover its lesions; while the laboratory men are straining their every effort to discover its true etiology. Medical literature is teeming with articles from the pens of those who are devoting special study to its hidden mysteries. Marked advance is being made in solving them, and, with the present progress continued, it will not be long before we know as much about puerperal eclampsia as we now know about its sister calamity, puerperal infection. With the etiology and pathology definitely settled, a successful scientific treatment will at once follow.

While it is not within the scope of the subject of this paper to consider the many theories as to the etiology of puerperal eclampsia, it is essential that, before outlining a method of treatment, a brief statement of the recognized conditions existing and difficulties to be overcome should be made.

Without entering into detail, and only referring to them as a basis of treatment, the causes of puerperal eclampsia may be divided into predisposing and exciting. Among the first may be mentioned certain pre-existing diseases, as of the heart, kidneys, etc.; pregnancy in the unmarried, as noted by Wieger and Price; primiparity; multiple pregnancy and hydramnios. Especially does the hypersensitive and irritable condition of the pregnant woman render her more liable to spasms. According to Windscheid, tetany and chorea rarely affect women except during pregnancy; a fact that strongly emphasizes her susceptibility to nervous affections. The pregnant woman's physiological condition predisposes her to puerperal eclampsia. Her blood, although increased in quantity, shows fewer red blood cells and is burdened with excess of leukomains and increased toxicity of serum. All her organs, especially the heart, lungs, liver, kidneys and thyroid gland, must do extra work. With this knowledge it behooves the family physician not only to keep her under constant surveillance, but to warn her that with the first appearance of dangerous symptoms she should seek medical advice.

As to the exciting causes we must confess much ignorance. However, it may be stated as the consensus of opinion among obstetricians and pathologists of the present day that puerperal eclampsia is caused by the retention in the blood of the pregnant woman of toxic material, originating from intestinal putrefaction and destructive metabolism, both in her own system and in that of the fetus (principally the latter); that she thereby suffers from toxemia or autointoxication; that this retention of poisonous material is accompanied by insufficiency of the emunctory organs, especially the kidneys, the liver and, according to H. Oliphant Nicholson, the thyroid gland; that these organs are not primarily, but rather secondarily, affected, analogous to the pathological conditions following scarlatina or diphtheria. The probable *modus operandi* in the production of the spasm is that these poisons, circulating in the blood, act as an irritant to the sympathetic nervous system, causing a contraction of the

arterioles of the body, and especially those of the brain. As a result of this contraction of the arterioles, the base of the brain suffers an acute anemia, while the large vessels of the cortex become engorged and press upon and irritate the cortical substance, thereby producing the spasm.

With this cursory review of the conditions to be met we may more intelligently take up the treatment. This will be remedial during the paroxysm and prophylactic for threatened eclampsia.

In managing the convulsive stage the indications for treatment are to control the spasm, to relax the contracting arterioles, to deplete the engorged blood vessels, and to eliminate the exciting toxins.

To control these spasms chloroform may be given to the surgical degree. This is the almost world-wide custom, but it has no curative effect, and when long continued is dangerous, as it favors broncho-pneumonia, increases the disintegration of red blood corpuscles and fatty degeneration of vital organs. In the last two cases treated by the author no anesthetic was used, the patients having been managed during the spasm as in an ordinary epileptic seizure. The inhalation of oxygen gas, as recommended by Prof. W. Stroganoff, of St. Petersburg, seems a more rational treatment.

To further control the convulsion and to meet the indications for treatment outlined above, three remedies stand forth as pre-eminent, namely, morphine, chloral and veratrum viride. With or without an anesthetic the author, in managing this disease, at once resorts to the use of veratrum viride. Fifteen drops of the fluid extract (preferably Squibbs) is administered hypodermically, and repeated in five or ten-drop doses every half hour until the pulse is reduced to sixty beats per minute. With the pulse thus lowered eclamptic spasms are unknown. Veratrum viride thus given acts as a vaso-dilator, lessens the blood pressure, slows the pulse, lowers the temperature, induces diuresis and diaphoresis and assists in dilating the os uteri. Objection is made that it is a "too dangerous drug to use." The objection is probably without foundation, as it has been administered for the past fifty years in America in large quantities and heroic doses without a single fatality being reported. Should syncope threaten after its use the reclining position with opium and heart stimulants will readily correct. This remedy has been employed by the author in ten cases with one death. This one fatality should not be counted either for or against the remedy, as the patient was moribund when first seen and died within an hour.

In addition to the administration of veratrum viride in cases exhibiting plethora, engorged blood vessels, edema of the lungs, and other symptoms favoring its use, the author resorts to that almost lost art, venesection. "Blood letting forms the first step in the treatment of puerperal convulsions," says the late Dr. Lusk. It is adapted to all cases save the anemic. Contrary to general teaching, a weak pulse is no contraindication. The majority of the author's cases have presented a rapid, weak or wiry pulse. The blood of the average woman weighing 125 pounds amounts to eight or nine pints. Blood letting to the amount of one pint, the abstracted blood being replaced by an equal amount of salt solution, will practically remove one-fourth to one-fifth of the toxic material, says Dr. Williams, of Johns Hopkins University. By its use the arterial tension with accompanying arteriole contraction will be lessened, the sympathetic irritation relieved, and the normal functioning of the organs favored.

The general mortality of puerperal eclampsia is from 25 to 50 per cent. But statistics from our western physicians, who bleed freely (from 16 to 30 ounces), show a mortality of only 7 per cent. Should the spasms return, venesection may be repeated, or, if contra-indicated, other remedies, to which venesection has rendered the patient more susceptible, may be used. In five of the author's ten cases venesection was practiced.

Hydrate of chloral has been used very successfully in treating this disease. Given in 30 to 60 grain doses with milk per rectum, not only aids in controlling the spasms, but lessens the annoying restlessness and irritability that follow. But like chloroform, which it greatly resembles in action, it has its deleterious effects and of late years has been abandoned by most practitioners for more successful remedies.

Morphine is the most generally recommended medicine at the present time for the control of puerperal convulsions. Following Veit's reports and recommendations, it has been almost universally used in Germany for the past ten years and is becoming very popular in England and America. It is given in heroic doses from a fourth to one and one-half grains hypodermatically, repeated according to the restlessness or the return of the spasms. However, its ill effects on some of the organs and subsequent locking up of the secretions are objections to its administration. Although claimed as the "German treatment," morphine in large doses was recommended by Dr. C. C. P. Clark, of Oswego, New York, in 1880 (*American Journal of Obstetrics*, 1881), long before it became popular in Germany.

At the present day no surgeon would presume to undertake a trying operation without having at hand a prepared salt solution and the apparatus for its administration. Of paramount importance is the use of this remedy in puerperal eclampsia. Since Jardine, of Glasgow, reported (*Scottish Medical and Surgical Journal*, October, 1899), that by this treatment the mortality in the Glasgow maternity was reduced from 47 per cent. to 17 per cent., its application has increased in popularity until now it has become almost universal.

The ease with which it can be administered hypodermically, intravenously, or per rectum, together with its almost immediately beneficial results should commend its use to every practitioner. It acts as a stimulant to all the organs, especially to the heart and kidneys; it dilutes the toxins circulating in the blood, thereby rendering them less irritating to the nerve centers; it dilates the capillaries, thereby increasing diaphoresis and diuresis; and it promotes elimination through all the emunctories.

Another remedy of undoubted value in many cases is the hot pack. It has a soothing, calming effect, principally by inducing diaphoresis and by relieving the engorgement of the internal organs. Its use renders unnecessary the administration of that dangerous and depressing drug—pilocarpin.

Besides strychnia, digitalis, and other stimulants, nitroglycerine is a remedy of proven value in eclampsia, as it reduces arterial tension and vaso-motor spasm, and moreover acts as a mild diuretic.

In order to eliminate toxins from the blood, catharsis, diaphoresis and diuresis should be encouraged. Croton oil, elaterium, calomel, thorough lavage of the bowels may be employed for the first; the wet packs for the second; and salt solution for the third. Strong medicinal diuresis should be avoided as the kidney is an already overworked organ.

In cases where the foregoing measures fail and the spasms continue, obstetrical interference may be necessary. It is a statistical fact that the convulsions cease in about 90 per cent. of the cases as soon as the child is delivered. Hence during labor we should hasten delivery by forceps or version if the os is dilated or dilatable.

In cases where labor has not begun or where the cervix presents marked resistance, forcible dilation by the hand or Bossi dilator or Duehrssen's multiple incisions, or cesarean section may be employed. However, statistics are, as yet, too meager to warrant obstetrical interference in all these persistent cases and the majority of writers still prefer to rely upon the expectant treatment. In case of the death of the mother with signs of a living child, rapid delivery through the parturient canal or cesarean section should be immediately performed.

Any paper on puerperal eclampsia would be incomplete today without reference to articles recently published by H. Oliphant Nicholson (*Journal of Obstetrics and Gynecology of the British Empire*, July, 1902) and by Professor W. Stroganoff (*Obstetrics*, Vol. iii, No. 2, February, 1901). Dr. Nicholson believes that eclampsia depends upon inadequacy of the thyroid secretion. He says: "It is evident that the real significance of the pre-eclamptic stage is that it points to a break-down of some part of the defensive mechanism. Furthermore, this break-down is the result of some inadequacy of the thyroid and para-thyroid gland whereby the process of nitrogenous metabolism, instead of resulting in the formation of urea, ceases with the production of intermediate substances which, when absorbed, excite the symptoms of a toxemia. In this way the degree of toxemia of pregnancy comes to be dependent, directly or indirectly, upon the quantity and activity of the thyroid secretion; the thyroid gland may, therefore, be given a primary role in the causation of eclampsia." In accordance with this theory, he has treated the pre-eclamptic symptoms—albuminuria, edema, headache, vomiting, etc.,—with five-grain doses of the thyroid extract given night and morning with eminent success. Upon stoppage of the treatment the symptoms would, in some cases, return, but they would again disappear upon the resumption of this remedy. He and others report favorable results from the use of thyroid extract during the spasms. The theory and treatment are certainly worthy of consideration and investigation.

Professor Stroganoff makes the wonderful report of fifty-eight cases of eclampsia without a maternal death and with fetal mortality of 11 per cent. He considers eclampsia an acute infectious disease usually running a limited course which rarely exceeds twenty-four to forty-eight hours. He uses no chloroform or ether, but gives oxygen inhalation during the attack. After the first convulsion he gives one-fourth grain morphine hypodermatically; with restlessness or spasm repeat dose in one hour. He then gives twenty to forty grains of chloral every five to ten hours to induce narcosis. With convulsions threatened or continuing, he occasionally repeats the dose of morphine; follows with quiet, fresh air and occasional inhalation of oxygen and, when the case demands, dilates the os and delivers the child.

Contrary to the usual custom, I have left the prophylactic treatment to be considered last. I do this for the reason that I regard it the more important. As before stated in this paper, the pathogenesis of this disease is in doubt. The best practitioners differ as to its therapeutics, but there can be no question as to the

truth of the statement that almost all of the cases of eclampsia may be prevented if proper prophylactic treatment be instituted. Remember, the defensive organs—kidneys, liver, and possibly the thyroid gland—are at fault. A large per cent. of the cases are associated with renal disease or insufficiency. This abnormal condition of the kidney every practitioner of medicine should be able to diagnose. But how many of us take the trouble to examine the urine of the pregnant woman weekly or monthly, as we should? Renal insufficiency ought to be early recognized and proper treatment at once inaugurated. Were this universally done many women who now fill premature graves might be alive and happy with their families today. Puerperal eclampsia should be recognized as a preventable disease and as great care should be exercised by the physician to avert it as he employs in the prevention of puerperal sepsis.

The prophylactic treatment will be hygienic and medicinal. With albuminuria, edema, persistent headache, vomiting, disorders of the special senses, hypogastric pain, and other prodromata, the patient should be put upon a strictly milk diet. Milk is almost a specific for the renal affections of pregnancy. Pinard at a meeting of the Paris Academy of Medicine in 1893, said: "Thanks to this precaution I have not observed a single case of eclampsia in more than five thousand women admitted to the Baudelocque Lying-in Hospital since 1889."

Farinaceous food, white meats and fish may be allowed as symptoms improve. Not only should constipation be avoided, but with toxic symptoms daily free catharsis by salines should be insisted upon. Thus the liver is kept active and there is no doubt that, in some cases, it is the guilty organ. By these means the toxemia is lessened without impoverishing the blood of its red corpuscles. In addition to milk diet, plenty of pure water should be taken to flush the kidneys. None but mild diuretics are permissible, owing to the overworked condition of the kidneys. A warm bath should be given daily to promote diaphoresis. Flannel clothing should be worn to protect against chilling of the surface of the skin. Fresh air, sunshine, proper exercise and rest should always be insisted upon.

Medicinal treatment for toxic symptoms will include cathartics, diuretics, diaphoretics, nerve and heart sedatives, and possibly thyroid extract, and such general tonics as may be indicated. All these measures failing to give relief and the patient growing worse, the induction of abortion or premature labor will be justified.

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EDITORIAL COMMENT.

THE VARIOLA-ORGANISM.

It is perhaps unfair to reflect in an editorial on a discovery that so far has only become known by what is called a preliminary report. It goes, however, without saying, that these preliminary reports, as a rule, contain the gist of what the author has unearthed, and that details that are of paramount importance for the estimation of the results are not withheld, this especially for the reason that the explicit publication naturally is often delayed for a long time. The publication of a preliminary report, however, would not be justified if it did not contain everything affording the possibility to adequately judge about the work done. Councilman certainly gave in nuce all that he thought he had found. He believes to have at last identified the causative agent of variola. If he really has discovered it he has done a work that will leave his name immortal. Hundreds of our most skilled investigators have foundered on this cliff, although we know that there are those that believe they have not foundered. Simultaneously, almost, with Councilman's announcement there appeared in France a paper in which the very same subject was investigated under conditions and with methods that could not be surpassed, by a man, by the way, that was honest and sincere in his search for the suspected microbium. Not only variola and vaccinia, but more extensively ovinia, were scrutinized for parasites, but nothing was found that microscopically and biologically could be taken as such. It was established by clinching experiments that the microbes, which certainly are there, must be small enough to pass certain filters, that means must necessarily

under the powers of our best microscopes at the best appear as undifferentiable and indistinct bodies. To be exact, we must say that this was only shown for ovinia, but ovinia and variola are so related to each other that the discussion about their eventual identity has only lately been closed.

All this, however, would have no bearing on our judgment, if Councilman's paper would present to us a single fact that unobjectionably would establish his assertion. As far as it goes it is based merely on microscopic pictures of variola and vaccinia lesions; the remarks about inoculations, etc., are such that no meaning can be attached to them. What Councilman has done is the finding of a so-called parasite in the lesions and, by comparison of different appearances of these parasites in different stages of the development of the lesion, to decree a cycle of development. To this is added the remarkable news that in variola another cycle is gone through of different character, while in vaccinia the development of the parasite is limited to the first cycle in variola.

Truly, new worlds will be discovered by these hunters for microbes, worlds of organisms that will show that our conceptions of the development of organic life have been so far altogether puerile. Of course, since we have not yet found another name, all these things are called protozoa. But what are protozoa? Science connects a certain meaning with this term; in our medical literature everything is called a protozoan that does not look like a bacillus or a coccus.

Why is it necessary to abandon recognized and controlled methods of research in this endeavor to discover new pathogenic organisms? The mistrust that is brought forward anywhere to a conclusion based on the comparison of so-called transition stages is nowhere justified as much as when we have to deal with unicellular organisms. The history of our science abounds with such mistakes. Koch has made an end of this, and how far the conviction of this truth goes is shown by the reserved opinion of scientists on the etiologic role of amebæ in dysentery. Our belief that every pathogenic agent must be of a size that it can be made visible has long been shattered, and we may be safely contented to work in the line of Nocard, Löffler, Frosch, Beyerinck, Lode and others and study the qualities of parasites, to see which our mechanical means are as yet incompetent. We are perfectly safe in assuming that unless new methods are discovered with means much beyond our present understanding, in variola and other infections we will not see the parasites with our eyes, however scrutinizingly we may search our sections for so far unnoticed bodies or formations. Since up to this time never anything has been seen that withstood scientific criticism, Councilman's parasites, too, will fall. They will fall like all of the yellow fever parasites have fallen, since the beautiful work of Reed and Carroll established at least one of their morphologic characters—that of extreme minuteness.

THE INCREASING INABILITY OF MATERNAL NURSING.

Artificial infant feeding is of comparatively recent date. The ancients knew nothing of it. Not until the end of the fifteenth century, so we learn from Biedert (*Die Kinderernæhrung im Sæuglingsalter*, Stuttgart, 1897), was artificial food substituted for nursing by mothers or wet-nurses. A survey of the history of medicine informs us that the tendency—or necessity—of substitute feeding has been growing ever since. "Opposition to maternal nursing," says Hamill in a recent article (*Amer. Jour. of Obstet.*, March, 1903), "has been more prevalent at some periods than at others, and, fortunately, perhaps, always more

common in the higher than in the lower walks of life." About the middle of the eighteenth century, under the influence of the writings of Jean Jaques Rousseau, society, in an acme of high sentimentality, devoted itself to the cult of nature, and it became "bon-ton" for mothers to nurse their own children. But already in the latter part of the eighteenth and in the beginning of the nineteenth century, custom—or style, as some author expresses it—practically proscribed maternal nursing among the aristocrats of England and France.

Though but few reliable statistics exist, they seem to indicate that not only the unwillingness but the actual inability of mothers to nurse their children is constantly assuming wider dimensions, and that throughout the civilized world, especially in the cities, the majority of women cannot fulfill their maternal duties. Planchau (*L'Obstetrique*, May, 1902), in Tarnier's clinic in Paris, records two hundred and forty-five women who were observed during at least seven months. Of these two hundred and forty-five, 64.4 per cent. were perfectly able to nurse, 29.8 per cent. had not sufficient milk, while 5.7 per cent. had not milk at all. Bunge, in Basle, Switzerland (*Die Zunehmende Unfachigkeit der Frauen, ihre Kinder zu stillen, etc.*, Muenchen., 1902) has made very exhaustive studies on this subject. He divided the cases in his statistics into two categories: those who were able and those who were unable to nurse their children during at least nine months without requiring artificial food. Dubious cases were left out of consideration, so that he was in a position to produce perfectly reliable statistics. Thus he found that among six hundred and sixty-five women one hundred and eighty-two were able and four hundred and eighty-three were unable to nurse.

These facts stand in marked contradistinction to observations made in more or less uncivilized countries. Gellhorn (*Deutsche Medic. Wochenschr.*, 1899, No. 9) states that he frequently observed, in Siam, children, two or three years old, who interrupted their plays to return to their mothers' breast, and relates that boys of nine years may be seen to place their palm leaf cigarettes behind their ears in order to take a sip of their mothers' milk. Ploss (*Das Weib in der Natur und Voelkerkunde*, Leipzig, 1899, Vol. ii), gives an elaborate table on the duration of lactation in various extra-European countries, and shows that a period of two or three years is the most common length of time for maternal nursing. A number of countries exceed this average by far, and the Esquimaux in King William's Land even nurse their children so long as fourteen and fifteen years. Of course, the possibility must be admitted that in some of these cases observed, repeated intercurrent pregnancies may have led to a continuous production of milk. Yet, there cannot be any doubt that the duration of lactation in these countries surpasses that ordinarily observed among the so-called civilized nations.

The search for the causes of this growing inability of maternal nursing is not only interesting from a medical standpoint, but also extremely important as a matter of national economics. It may not altogether be denied, so long as we have no statistics at our disposal that could prove the contrary, that carefully administered artificial feeding may be equivalent, for the development of the child, to maternal nursing. But this indispensable amount of care will never be taken by the large masses of the people. The statistics on the mortality of infants clearly prove the truth of this statement. In Berlin, for instance, in 1889-1890, the mortality among first-year infants reared with cow's milk was six times as great as among breast-fed children. We may, in analogy, assume more or less

identical conditions in our own country. Thus all authorities on artificial infant feeding, such as Biedert (*l. c.*), Jacoby (*Infant Diet*, New York, 1873), and many others who, by their untiring efforts, have saved the lives of many thousands of the new-born, fully agree that breast milk is absolutely the best food for the infant. In trying to restore to mothers the vanishing ability of providing the new-born with this best and only natural food, we must needs go back to the primary causes of the prevailing conditions. Kerley (*Short Talk with Young Mothers*, New York and London, 1901) finds these causes in the social conditions of our time, which are against the development of those requirements so essential for the proper performance of all the functions of motherhood. A nursing mother, in addition to being in fair physical condition, should be mentally at rest. This is not the case with the sensitive, overstrained and impressionable women of our better classes. A nursing mother should worry little, and have no anxiety for the morrow. A mother, to nurse her child successfully, must be a happy, contented woman. It is the lack of happiness, the absence of contentment, that pervades all classes, that renders women unable to nurse their children. The American women of our large cities assume the cares and responsibilities of life equally with men. Among the so-called higher classes, there is a constant struggle for social pre-eminence. Among the majority of the so-called middle classes, the contest for wealth and place never ceases from the moment the school days begin until death or infirmity closes the scene. Among the poor there are the ceaseless toil, the struggle for food and shelter, the care of the sick and the frequent deaths of little ones in the family whom they are unable to properly care for. In all classes, therefore, the conditions of life are such as seriously to interfere with the normal function of nursing, no matter how excellent may be the mother's physical condition.

Bunge (*l. c.*), on the other hand, finds the inability to nurse, in the main, due to heredity. "If a woman cannot nurse her child, the daughter, almost without exception, cannot nurse either, and this faculty is irreparably lost to all coming generations." Of special interest are the cases in which the mother is able to nurse, while her daughter is unable to do so. The etiologic factor in these cases, according to Bunge, within our present knowledge of causes, is alcoholism. "If the father be a drinker, the daughter loses the ability of nursing, and this faculty is irretrievably lost to all coming generations." The inability to nurse is no isolated symptom, but is associated with other signs of degeneration. The children, then, are insufficiently nourished, and thus the degeneration increases in each following generation, and finally leads to the destruction of the whole family.

With due respect to the great merits of Bunge, we cannot but record these expressions of rather extreme abstinence views with the utmost reserve. Though they seem to be supported by the observations of Dr. Christ, that among the Turks, Arabs and Kurds, Mohammedan people, who refrain, by religious demand, from the use of alcohol, artificial infant food is absolutely unknown, yet, from personal communications we learn that in Russia, where both sexes freely indulge in alcoholics, the women of the lower classes, in other words, the majority of mothers, nurse their own children.

The treatment of inability to nurse is, almost exclusively, by prevention. Here we have to distinguish between personal and general prophylaxis. The former should be well known to every family physician, and consists in hygienic

measures which must be observed during the whole course of gestation. Moreover, this hygiene of woman ought to begin with the moment of her own birth and be continued throughout life, especially during the all-important phase of puberty. We need but refer to the able work on this subject by Platon and Sepet (*Hygiene de la Femme*, Paris, 1902).

As to general prophylaxis, the radical change of unfavorable social conditions is beyond the scope of our medical interference. But there is another way to overcome degeneration: natural selection. Bunge demands that a healthy man, who wishes healthy descendants, should not marry

1. A girl that could not have been nursed by her own mother;
2. A girl of a tuberculous family;
3. A girl of a neurotic family;
4. The daughter of a drinker.

It goes without saying that the same right should be given to the marrying girl.

Our knowledge upon this interesting and important subject is, as yet, far from complete, and it will largely rest upon the general practitioner, who alone is enabled to study families through several generations, to add further valuable material to the documents in evidence.

BACTERIAL LIGHT LAMP.

Bakterienlichtlampe (bacterial light lamp) is the name given by Prof. Mölisch to an apparatus concerning which he sends the following communication to the Vienna Academy of Sciences. He has succeeded experimentally in photographing phosphorescent cultures of bacteria, after an exposure of five minutes, by their own light. In order to photograph other objects by means of this bacterial light, he constructed a special bacterial lamp. This consists of a large flask whose interior is lined with salt-peptone-gelatine, previously inoculated with bacteria. On the second day following the inoculation the lamps begin to glow with a beautiful bluish-green light, due to the phosphorescent colonies growing within. These living lamps have the property of shining with undiminished intensity for two or three weeks and then gradually diminishing in strength. Their light is sufficient to permit one to recognize the face of a person standing two yards away, to tell the time, to read a thermometer or even large-sized print. In view of the freedom from danger of such a cold light its use in mining operations or in powder magazines may become of importance. With this lamp as a source of light, Prof. Molisch succeeded without difficulty in photographing several objects, and he exhibited as examples photographs of a bust of Schiller, of a thermometer and of a printed page. Organic light, particularly the rays emanating from glowing insects, such as the so-called glow-worm, has been made the subject of many investigations, and it was even asserted that this light had the properties of the Roentgen rays. This view is, however, based on a misunderstanding, as Prof. Molisch proves. Bacterial light acts just like ordinary light.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Concerning the Theory of Paroxysmal Hemoglobinuria.—KRETZ (*Wiener Klinische Wochenschrift*, No. 18, 1903) applied Ehrlich's theory of hemolysis in the study of a case of paroxysmal hemoglobinuria. In order to make comparative tests, he examined also the blood from a case of ulcer of the stomach, from a case of nephritis and from a case of herpes zoster.

The blood from the case of hemoglobinuria was examined, both with reference to the solubility of its erythrocytes by the fresh human serum, and to the dissolving power of its serum. The control tests showed that the erythrocytes of the blood from the case of hemoglobinuria were much richer in "hemolytic ambozeptores" than those from any of the other cases examined, and that the hemolytic power of the serum from this case was decidedly greater than was that of the serum taken from the other cases.

The Determination of the Urinary Pigments and Their Diagnostic Significance.—KLEMPERER (*Berliner Klinische Wochenschrift*, No. 14, 1903) endeavors to reach conclusions as to the function of the kidneys through the determination of the amount of the urinary pigment excreted in a definite time. In the normal urine but one pigment need be considered, viz., the urochrom. The other coloring matter, such as urobilin, uroerythrin, etc., need not be taken into consideration, for they occur, in the normal state, only in the merest traces. They are increased under pathological conditions. These can be readily detected by the spectroscope, while solutions of urochrom are permeable to all of the rays of the spectrum. The urochrom can be detected and isolated from the urine through complicated chemical processes. The author has devised a simple method for determining approximately the amount of urochrom present in urine, through comparisons with fixed solutions.

If 0.1 grains of dry Echtgelb G. (Leitz) is dissolved in a liter of water, and 5 ccm. of this solution be diluted to 90 ccm., a solution is obtained which is identical in color with a 0.1 proc. solution of urochrom. This solution, kept in an appropriate glass vessel, is used for comparison with the diluted urine.

The author expresses reasons why he believes the urochrom to be manufactured from the blood pigments by the kidneys.

He found in nine normal cases that the amount of urochrom excreted in twenty-four hours varies from 0.8 to 2.7 grams.

The Significance of Oxaluria.—OGDEN (*Medical News*, No. 14, 1903).—Oxaluria, which is characterized by the presence of oxalate of calcium crystals in the urine, may be temporary or persistent. Their continued presence always shows an overproduction of calcium oxalate. Experiments have shown intestinal fermentation to be one of the most important causes. As yet no organism has been discovered which produces oxalic acid during fermentation. It is quite probable that a diminution or absence of hydrochloric acid in the stomach is necessary for the development of the fermentative oxaluria.

The ingestion of foods, such as sorrel, rhubarb, tomatoes, asparagus, spinach, onions, cabbage, grapes, apples, etc., also cause oxaluria. The

author maintains that if, after removing all oxalic acid containing foods from the diet list, oxaluria still persists, it is practically certain that the cause lies in the digestive tract.

Primary crystals of calcium oxalate, i. e., those that have separated from the urine, inside the body, often produce a marked irritation of the urinary tract, while a protracted formation of the crystals often results in the formation of calculi.

Oxaluria often occurs in diabetics, probably as the result of intestinal fermentation consequent upon the ingestion of one kind of food. No satisfactory explanation has ever been given for the frequent occurrence of oxaluria in nervous disorders.

The Spontaneous Fracture of Urinary Calculi in the Bladder.—KAPSOMMER (*Wiener Klinische Wochenschrift*, April 30, 1903) could find but sixty cases of spontaneous disruption or fracture of urinary calculi reported in the literature. Nearly all of these cases pertained to urate stones. There were two exceptions, one a phosphate stone, and one an oxalate. Ninety per cent of these cases were in old men.

Most of those who have observed such cases attribute the phenomenon to chemical changes within the stone, sudden liberation of gases, etc. The author attributes his case to mechanical causes.

The stone was broken into forty-nine sections, which weighed 103.75 grammes. The author maintains that its dissolution could only have been brought about through a contraction of the bladder.

The Prognostic Value of the Diazo Reaction in Pulmonary Tuberculosis.—WOOD (*Medical News*, April 4, 1903) made a study of the diazo-reaction in 363 cases of pulmonary tuberculosis, and comes to interesting conclusions as to its significance. If the urine of a case of pulmonary tuberculosis shows no diazo reaction and a kidney lesion can be excluded, the prognosis is favorable. Only 10 per cent of the moderately severe cases gave a reaction, and in a number of these the reaction disappeared on treatment. Early cases, not ill enough to apply for hospital treatment, do not give the reaction.

If the urine of a patient shows an occasional diazo reaction the prognosis is not necessarily grave, as only some 66 per cent of the patients showing an occasional positive reaction die.

If the urine of a case of pulmonary tuberculosis shows a continuous strong diazo reaction, the prognosis is very grave, since a large proportion of such cases die within six months.

The presence of a diazo reaction on the first examination should not debar the case from a thorough trial of climatic treatment in a proper sanatorium.

A Study of Leucocytosis in Perityphlitis.—GOETJES (*Muenchener Medizinische Wochenschrift*, No 17, 1903) carried out a series of systematic observations with reference to the leucocyte count in perityphlitis, and came to the following conclusions: A constant high leucocytosis (20,000–30,000) in perityphlitis always points to the existence of a purulent process, providing there are no other complications to which leucocytosis may be attributed.

If the number of leucocytes is normal, or even decreased, and there are severe clinical symptoms, the case should be considered a serious one.

These observations apply only to those cases in which there is a circumscribed abscess, for in diffuse peritonitis the leucocyte count loses its certainty. In fact, under such circumstances a high leucocyte count permits of a favorable prognosis.

The Abnormal Mobility of the Gall-Bladder Containing Stones.—LIEBLEIN (*Muenchener Medicinische Wochenschrift*, No. 15, 1903) reports a case in which he found a tumor about the size of a child's fist, to the right of and somewhat above the navel. It was quite movable, seemed to have no connection with the liver; could be pushed up behind the liver or into the epigastrium. In the absence of any other indications, a diagnosis of carcinoma of a movable kidney (right) was made, and operation recommended.

The tumor was found to be the dilated gall-bladder containing a large stone. The cystic duct had been drawn out into a long pedicle, and permitted the gall-bladder almost unlimited motion.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Intra-Abdominal Torsion of the Great Omentum.—VIGNARD and GIRAudeau (*Revue de Chirurgie*, No. 4, Tome xii).—Two of these rare cases which came under the care of the authors inspired them to make this report of all the twenty cases which the literature contains. Their first patient experienced a sudden onset of abdominal symptoms, but suffered no vomiting or arrest of stool; there was a large mass in the right side of the belly, which at the operation was seen to be the omentum. This was twisted three times near the colon, thus forming of itself a comparatively small pedicle, which was ligated and the whole removed. On the twenty-second day the patient left the hospital completely cured. The case of the second patient was unique, in as much as he suffered from recurring attacks of severe colic; his illness consisting of six attacks, covered a period of some years. In this case a diagnosis of appendicitis was made, but at the operation it was seen that the lower two-thirds of the omentum was twisted upon the upper third. After removal of the mass the patient was sufficiently recovered to permit of his leaving the hospital on the fourteenth day. The literature shows that such accidents have been much more common with women than men. It is also interesting to note that almost every patient has been afflicted by an inguinal hernia, which factor must, of course, have something to do with the trouble. The torsions have been at one point, at two points, or multiple. There have been as many as six twists at one point, and the direction has always been from right to left. The onset has been extremely acute always, but there have been no pathognomonic symptoms, and the diagnosis has not been made in a single reported case, prior to the operation.

The Technique of Operating Upon Large Hæmangiomas and Lymphangiomas.—MUELLER (*Beitraege zur Klinischen Chirurgie*, Band xxxvii, Heft 1 and 2).—This paper takes up simply the consideration of one sort of blunt enucleation of the tumor. The author has been surprised to note that this simple procedure appears to be little used, if indeed known to many. But still, as he later shows from his own observations, it is possible to remove, in this way, a large number of these growths, and that without hemorrhage of consequence. In fact, the author has done such operation without the necessity of making a single ligation, where he has simply been careful to keep strictly between the capsule of the tumor and the healthy tissue. Of course, the method is not so simple where there has been some attempt to remove the growth or to induce its shrinkage by injections, etc., for the reason that all of these procedures cause widespread adhesions. The feasibility of the author's procedure depends

upon the fact that the disease is usually confined to one sharply defined vascular region, hence it is possible that there be developed around the whole, a capsule which shall not of necessity be pierced by vessels at short distances from each other.

Mueller has done seventy-three operations by this method and none by any other, something which certainly proves the practicability of it. Of these, thirty-one were larger than a walnut.

The Results of Operations for Liberation of the Radial Nerve Following Fractures of the Humerus.—LOUNOIS ET LEJARS (*Revue de Chirurgie*, May, 1903).—The authors report a case which is especially interesting from a diagnostic standpoint, as well as from the fact that a complete recovery rewarded the efforts of the operator. In this case the etiology had been so neglected by a good observer that he was misled into making a diagnosis of sarcoma, when he felt the callus, and supposed in consequence that the paralysis was a "pressure symptom" pure and simple.

The patient broke his arm by trying to catch his weight and save himself from a sudden fall, the injury healing kindly under ordinary treatment without any unusual incident. After several months there appeared a vague sensation of pain, and soon there was wrist-drop in addition. An operation was decided upon, and the nerve found bound down in a callus, as might be expected. This was relieved and the wound healed by first intention; but it was six months before there was any return of movement, though from this time on the improvement was most rapid till the end of eight months, when all movements were possible in their old-time freedom and strength.

This operation was performed four months after the receipt of the injury, which in itself gave a better prognosis than if it had been postponed to a later time. The author makes one good suggestion, which is that the motor condition of the radial region should be explored daily while the arm is immobilized after such an injury. In sixty-eight similar operations there has been a positive result in fifty-eight cases, there being forty-one complete cures. The restitution of function is, however, always slow.

Inversion of the Vermiform Appendix and Its Relation to Intussusception.—ACKERMANN (*Beitraege zur Klinischen Chirurgie*, Band xxxvii, Heft 1, 2).—In an operation for this accident at the Rostock clinic, the appendix, completely inverted into the lumen of the gut, was found at the head of the column in very much the same relation to the trouble as one considers the diverticulum of Meckel when it is found under similar circumstances. The author reviews the twelve cases of this kind which have been found by him in the literature and comes to interesting practical conclusions. He thinks that one certain form of appendix is especially predisposed to undergo the change above mentioned, viz., the one with a thin wall and a lumen communicating very freely with the interior of the gut itself; it is of course more reasonable to suppose that the organ could be easily inverted under these circumstances. He thinks that certain results of inflammation of the organ may predispose to the condition just considered. The swollen, inverted appendix acts in the mechanics of intussusception, just like a polyp or other tumor of the intestinal wall, when such heads the column. Just the effect that this reasoning may have upon those who follow Baldwin's suggestion (inverting the uncut organ in appendicitis) it is interesting to observe. No one has reported intussusception following Baldwin's procedure, so it may be that the presence of the inverted appendix at the head of the column, as noted by Ackermann and others, is only an accidental and not an etiological factor.

The Surgical Treatment of Facial Paralysis by Nerve Anastomosis.—CUSHING (*Annals of Surgery*, May, 1903).—In May, 1902, Cushing sutured the distal portion of the facial nerve to the proximal end of the spinal accessory, and secured a perfect result in a case where the facial had been cut in two by a bullet. The injury had been inflicted some two months before, the missile having entered the skull at about the site of the mastoid process. After the two nerves had been fully exposed so that the necessary lengths could be determined, they were divided and the stump of the one sewn to the peripheral portion of the other with three strands of fine silk. Only the nerve sheathes were united, it may be added, and the wound healed by first intention. The author makes a few remarks upon the delicacy of the procedure, how the nerves must be carefully handled, how a rigid asepsis must be preserved, and how hæmostasis must be perfect; at the same time he is of the opinion, as are most other authors, that the sooner the operation is undertaken, just so much greater can be the patient's hopes of a favorable result.

The Treatment of Fistula in Ano.—STERNBERG (*Centralblatt fuer the gesamte Therapie*, April, 1903).—The simple sub-mucous and the sub-cutaneous fistulæ are to be treated in the old-fashioned way, viz., by incision and packing. However, if the trouble be in the ischio-rectal space and the fistulæ be multiple, then the surgeon is helpless unless he can follow up every single track and bring all of them into wide communication with the lumen of the intestine. A perfect result can be hoped for in a short time only after one has completely excised all the fistulous tracts and sewn up the resulting wounds; a severe procedure, but one that gives definite results. First the fistulæ are to be split in the old way, if possible, and then the tracks completely cut out; the author has had occasion to do this in a very large number of cases and with almost universally good results. He moves the bowels about the third or fourth day, and removes the stitches at the end of two weeks. For the latter the through-and-through variety are to be preferred.

The Treatment of Defects in the Tibia and Os Calcis.—BAYER (*Centralblatt fuer Chirurgie*, May 9, 1903).—This very ingenious plan is to be carried into effect after the cavity has been carefully cleansed and all projecting pieces of bone removed; when instead of packing the cavity, as was formerly the custom, the author recommends that it should be covered as far as possible with skin drawn from the wound edges by sutures, the same being tied over a gauze roll which is so fashioned as to fill the defect, and thus make its new skin covering lie flat.

As a matter of course, the duration of the convalescence can by this method be greatly shortened, in much the same manner that a skin graft curtails the healing of an ordinary granulating surface.

A Contribution to the Etiology of Carcinoma of the Œsophagus.—WOLF (*Muenchener Medizinische Wochenschrift*, May 5, 1903).—Here are related two cases with autopsy, in which it is vividly called to mind that any sort of chronic irritation may predispose to carcinoma formation. The cases in point are two in which spondylitis deformans existed, with pressure upon the œsophagus; the author taking it for granted that there was friction between the two surfaces every time the patients swallowed and thus a similar state of affairs to that produced by the rubbing of the pipe-stem upon the lower lip of the inveterate smoker. The autopsy in the first case disclosed as a cause of death a rupture into the right pleura with empyæma and beginning gangrene of the lung. The second patient died of asphyxia, the cancer having ulcerated through from the œsophagus into the lumen of the trachea.

Traumatic Tuberculous Peritonitis with Ileus.—LUECKE (*Berliner Klinische Wochenschrift*, May 4, 1903).—This extremely rare case is reported from the surgical clinic of Sonnenburg at Berlin. A twelve-year-old boy fell upon the ice and a comrade stumbled and fell across the little fellow's abdomen, with a result that he manifested serious stomach symptoms (vomiting, etc.) the same day and evening. Twelve days later, when he was sent into the clinic, his abdomen was greatly distended, temperature and pulse were high, and there were obstructive symptoms. Though the father denied a specific taint in the family, several symptoms were suspicious of a tuberculous peritonitis, viz., lack of peristalsis, lack of sensitiveness in the distended abdominal wall, the rapid emaciation of the patient, etc.

On the fifteenth day after the fall a laparotomy was performed and the entire peritoneum found studded with tubercles, as well as the retro-mesenteric nodes enlarged. Four hours later the child died in collapse and at the autopsy there was shown even more conclusively the connection between the accident and the general disease of the peritoneum, the idea being that the blow released tubercle bacilli which were lying dormant in the lymph nodes of the abdomen, and that these then infected the peritoneum. The appearance of the tubercles justifies the belief that they were no more than fifteen days old.

Diagnostic Value of Blood Pressure Determinations in the Diagnosis of Typhoid Perforations.—CRILE (*Journal of the American Medical Association*, May 9, 1903).—The mean systolic blood pressure in a large number of typhoid cases was determined to be 104 mm. for an average during the various weeks when there were no perforations. The mean pressure measured 20 mm. in twenty patients suffering with acute peritonitis. In five cases of typhoid where blood pressure rose and a perforation was diagnosed, four were confirmed by operation or autopsy, while the fifth was so typical as not to need either kind of proof in the author's mind.

The Course of the Fistulæ Which Complicate Appendicitis.—MUEHSAM (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Band xi, Heft 2).—This article comes from a clinic which is especially noted for its appendicitis work, viz., that of Sonnenburg in Berlin. The author divides the fistulæ into those which arise without an operation and those which follow one. The author's observations have shown him that fistulæ which result from disease of an appendix which is never removed, recur until the organ is taken out, and that they then promptly heal. The danger is very slight that a fistula which has once formed between abscess and intestine, will be permanent. The same rule holds good for the vagina, provided the appendix has been removed. In the clinic there have been many pus cavities opened by this route, but never has a fistula remained. It is very different when the urinary bladder has been affected: here the fistula will persist, and, in addition, there is always the danger of an ascending infection being complicated by pyelonephritis. A post-operative fistula can result if the intestinal wall has not been properly sewn or if it be diseased (tuberculous), or if the wall of the intestine be injured at a distance from the appendix, or especially is all of this true if the little organ be not removed. Further, fistulæ result from the continued flow of pus from neighboring collections between the intestines. Fistulæ are to be prevented by care at the operation as well as by an after-treatment which protects the wall of the gut. As to treatment, one should wait a long time before operating at all, and then suture of the defect does little or no good, since the gut wall is friable; usually it must come to some sort of anastomosis or extensive intestinal operation.

An Epithelioma of the Tongue, Almost Twenty Years Later.—GUINARD (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 14).—The patient is a man of sixty-nine years who has at present a recurrent epithelioma of the tongue. He was operated upon eighteen years ago and this is his third recurrence. It is more than of passing interest in the family history to note that his father died of cancer of the stomach and that his mother's sister also succumbed to a like involvement of the uterus. A few months later there was a recurrence which was removed, after which the man spent eighteen years of perfect health. But a month ago a new ulcer made its appearance and illustrated the difficulties and uncertainties which beset the surgeon and the patient when cancer is to be treated.

Some Unusual Cases of Appendicitis.—WEIR (*Medical Record*, May 23, 1903).—The first case mentioned is one of strangulation of small intestine beneath a long appendix adherent at its outer extremity. The next was one evidently supposed to be a strangulated hernia, but on cutting down the sack was found empty, though behind it in the belly there was a typically inflamed appendix. He reports further a strangulated hernia with a gangrenous appendix, and explains the condition by saying that the organ has at best a poor blood supply, so it does not take much pressure to cut off enough more to cause gangrene. In one case an inflammatory tumor (?) marked the former site of an appendix; further he found one organ but half an inch long; saved a patient from general peritonitis by saline infusions; and removed a cancerous appendix after thirteen attacks of characteristic symptoms.

Investigations Concerning the Pathology and Treatment of Tuberculous Peritonitis.—KOEPPEN (*Archiv fuer Klinische Chirurgie*, Band lxxix, Heft 4).—The author of this article is no nearer to solving the problem of the effect of a laparotomy on the disease, than have been the many others who thought and worked over the matter. One thing is true of the cases which have been treated in this manner, that is, that the exudate has disappeared permanently in all of those which have been permanently cured. However, it is not correct to judge the condition of the abdomen from the exudate alone, as is proved by the fact that some cases proceed as a dry peritonitis in which the exudate has been let out and has really remained away. It is interesting to note the effect that the high specific weight of the tubercle bacilli have upon the different phases of this study. In the first place it is very hard to find the germs in a smear made from the abdominal contents as they are exposed in an operation, for the reason that the heavy little bodies have fallen into the deepest recesses. It must be added, at the same time, that the disease is most pronounced in these localities and for the same reason. Why does not a constant reinfection of the peritoneum take place and thus preclude a possible cure of the malady. The author thinks it is because of a gradually developing immunity, which seems plausible. But the exudate may remain in full quantity and not be absorbed, though the peritoneum has become immune, if the organism has not the strength to overcome the toxins; then only in those cases where the immunization is complete, does the exudate fail to collect, though an operation be performed and the same let out.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

A Preliminary Note on Some Experiments to Determine Whether Alcohol Does Good in Infections by Increasing the Bacteriolytic Power of the Blood.—H. A. HARE (*The Therapeutic Gazette*, 1903, May 15).—Notwithstanding some differences of opinion, it is not to be denied that physicians of experience the world over employ alcohol to combat serious infections, and obtain from its use results which cause them to rely upon it when other remedies fail. This is notably the case in infectious diseases of a febrile type, and peculiarly so in two conditions depending largely upon bacteriemia: septicemia or the popular "blood poisoning" and typhoid fever. Most experimental investigators, however, have concluded that alcohol is always a depressant poison to protoplasm in all doses, and that it never acts as a stimulant in the true sense. Clinicians, nevertheless, have continued to use it with an implicit faith based on bed-side experience, shaken a little, perhaps, by the statement of the laboratory worker.

It is incredible that thousands of skillful men should be in error as to the value of alcohol in therapeutics. Some explanation must exist. It occurred to the author that the power for good of alcohol might lie in an effect of the drug upon bacteriolysis. Several series of experiments were carried through to test the existence of such an effect. Subjects were chosen who had some chronic disease, such as peritoneal tuberculosis or subacute uremia, in which the patient's condition did not vary perceptibly from day to day.

The method of experimentation so far as the bacteriologic research was concerned was as follows:

The clear blood-serum was removed from the clot by means of a sterile graduated pipette, and portions of 0.1, 0.3 and 0.5 cubic centimeter transferred directly to small test tubes, in which had been placed enough normal salt solution to make one cubic centimeter, and also three drops of bouillon. These tubes were then inoculated with cultures of *bacillus coli communis*, in such a manner that each tube received about the same number of micro-organisms. A control tube containing one cubic centimeter of salt solution and three drops of bouillon, but no blood, was similarly inoculated. The tubes were then placed in an incubator at 37° C., and at intervals of one, three, five and twenty-four hours, series of plates were made, using three loopfuls for each. These were counted when from eighteen to twenty-four hours old. The number of colonies on these plates indicated the number of bacteria in each tube, and as the tubes differed only in the amount of serum they contained, depended upon the effect of the blood serum upon the growth of the bacilli.

Such a series of tests was made upon the blood first before the administration of alcohol, then after the administration of alcohol in doses varying from three to five ounces daily, then two and ten days after omitting the alcohol and finally after again giving alcohol for a week. The results were very striking. Before the administration of alcohol the blood had a very slight inhibitory action upon the growth of *coli* bacilli, after giving three ounces of alcohol daily for a week, the growth of the bacilli was much impeded. Larger doses (five to six ounces daily) gave the blood a still greater bacteriolytic power: the tubes, inoculated as described above, remained sterile. This condition was still present two days after ceasing the administration of alcohol, but had disappeared after ten days. After again giving alcohol the bacteriolytic power reappeared. From these results it may be concluded that the use of alcohol seems to have the power of combating infectious diseases by increasing the bacteria-destroying

power of the blood. Another series of experiments, for which the reader must be referred to the original article, while too few and too contradictory to determine the question, seem to indicate that this effect is produced by an increase in the complement.

The entire matter, while of extreme interest and importance, is still very dark and requires confirmation. The fact that the writer entitles his paper a preliminary note indicates that he intends to continue the investigation.

On Intestinal Mucous Colic (Colica Mucosa) and Its Treatment.—PROF. C. VON NOORDEN and DR. C. DAPPER (*Samml. Klin. Abhandl.*, Heft. 3; *ref. in Centrabl. f. d. ges. Ther.*, 1903, Heft. 4).—The anatomical material at hand concerning colica mucosa, though rather scant, shows that on the one hand it may be associated with true enteritis, on the other may be unaccompanied by any anatomical changes in the intestinal mucosa. It is the latter that are of special importance for the pathogenesis and therapy of this affection.

It is the tendency of recent investigators no longer to differentiate closely between membranous enteritis and mucous colic, but rather to regard the former as an inflammatory complication involving the secretory neurosis, termed colica mucosa.

Most cases of colica mucosa are observed between the ages of 20 and 45, far more frequently in women than in men. The disease is usually preceded by various digestive disturbances, partly gastric in nature, such as nervous dyspepsia and superacidity, partly a tendency to dysentery, occasionally with the unusual symptoms of nervous diarrhea. Without exception almost has there been, previous to the development of colica mucosa, a persistent obstipation for weeks and months, accompanied frequently by the passage of mucous. In a few cases there is a history of organic intestinal disease (appendicitis, dysentery). Frequently also are present chronic affections of the genitalia or splachnoptosis. In all cases of the author the patients had for some time, and for various reasons, been put upon a very simple diet, as in cases of ulcer or catarrh of the stomach, cholelithiasis, etc., and in consequence thereof had suffered appreciably in their nutrition, having lost often as much as twenty and thirty pounds. Invariably these were accompanying symptoms of neurasthenia or hysteria. Previous to the outbreak of the trouble there is often mucous admixed with the hard fecal matter and painful sensations in the abdomen. The genuine attack now follows, consisting of the passage of mucous, with little or no fecal matter, from the bowels, either without pain or accompanied by more or less severe colicky pains. The attack may be completed by the expulsion of the mucous or may continue for several hours or days, often associated with diarrhea. After the attack is over there is an interval of a week, or even a month, in which the patient is troubled by more or less marked digestive disturbances.

The mucous masses expelled are either loose, glairy, almost dissolving, or hard, dry and resembling animal tissue. Between these two conditions there are various gradations. The soft mucous masses may be considered as fresh, the harder ones as due to inspissation. As in typical cases, often no mucous is passed for a long time and the large quantities of old mucous are suddenly expelled, it is to be supposed that the old adherent masses are freed by the mechanical stimulus of the attack itself. The anatomical findings likewise show that the mucous is very firmly attached to the mucous membrane. By means of powerful intestinal contractions and the secretion of new mucous masses under the old, the latter is raised up from the mucous membrane and discharged. Apparently the adherent old mucous itself gives the impetus to the outbreak of the paroxysm.

The spastic intestinal contractions often attain unusual severity, the pains

are accompanied by nausea and vomiting, so that the picture may resemble intestinal obstruction. In mild cases there is only occasional expulsion of mucous without particular pains, depending on the character of the mucous discharged and the susceptibility of the individual affected. The authors are of the opinion that mucous colic only arises as a sequence to more or less marked constipation, inasmuch as the absorption of water in this condition was not confined merely to the feces, but also to the secreted mucous masses. With this inspissation the mucous loses its elasticity and motility, its stickiness increases. When this has reached a certain point, the attack takes place. Besides this, nervous influences are doubtless a factor in the attack. Since but a small percentage of the cases of constipation, even the most persistent, lead to colica mucosa, one cannot ascribe the increased mucous productions merely to the constipation. One must assume a special anomaly of the nervous apparatus governing the mucous secretion of the large intestine, hence a secretion neurosis, unless indeed the hypersecretion be due to inflammatory disease. Against the latter, however, speak both the anatomical findings and clinical experience.

The treatment is to be directed symptomatically against the attacks and according to the etiology against the constipation and the general neurotic condition. During the attack rest in bed tends above all else to quiet the intestines, particularly if accompanied by hot abdominal compresses. Laxatives are not advisable, rather narcotics, either in the form of a hypodermic of morphine or as suppositories, such as *extr. opii.*, *extr. belladonnæ*, aa 0.04, which almost invariably quiet the attack of pain. The next indication is to expel the mucous masses. Irrigations with water at body temperature yield without pain large quantities of mucous. No irritating substances, such as salt, glycerine or soap, should however be added, as these give rise to a true paroxysm of pain and spasm of the intestine, preventing the entrance of the water to higher portions of the intestinal tract. It is also noteworthy that the first enema only brings forth mucous, whereas higher up where the water, as a result of the spastic contraction, did not penetrate lie hard scybalous masses that must by all means be removed. Therefore it is well to give one to two hours after the water irrigation a high enema of oil (300 to 500 cm.) which should be retained as long as possible. The patients usually hereupon fall asleep under the influence of the narcotic. On waking up, oil, mucous and feces are emptied free of pain. The attack is overcome.

The etiological treatment must be directed primarily to a restoration of intestinal activity, since by regulating this every case of mucous colic can be rapidly cured. Although the motor functions of the intestines can be improved by sparing them as much as possible through non-irritating, simple diet, with little residue, and systematic oil enemata, relapses seem to be very frequent in this form of treatment. For this reason v. Noorden has for many years given patients with mucous colic a very coarse and indigestible nourishment containing much residue, particularly such with a large proportion of cellulose. This undergoes slow decomposition in the intestines partly through bacterial action. The gases produced by this decomposition prevent the formation of hard fecal concretions. The stool in cases of a diet rich in cellulose is always soft, wherefore just this form of nutrition is indicated in cases of colica mucosa. With this diet there is no need for supplementary measures such as oil enemata, etc. This regimen is aided, moreover, by the use of certain mineral waters, such as Kissingen, Hamburg and other sources of sodium chloride. Karlsbad and other alkaline waters, however, should be avoided. A further help is massage of the large intestine, particularly the sigmoid flexure, which is nevertheless only of avail if we give a nourishment rich in residue, and is contraindicated where rigid dietetic measures are adopted.

The menu should consist of the usual articles of diet and besides this, breakfast foods, vegetables containing considerable cellulose, coarse-skinned and

small-kerneled fruits, bacon, fat, particularly however large quantities of coarse graham bread. Patients are kept on this diet three to five weeks. After the bowels have been thus regulated, one can return to the customary bill of fare. Success is only then assured when fecal formation and expulsion remains normal for some time. Then the mucous colic will likewise not return.

The general nutrition must likewise be considered. Since one usually deals with nervous individuals in a low state of nutrition for whom a Weir-Mitchell cure is indicated, an improvement of the general health is a condition *sine qua non* for permanent cure. It is therefore the object of every dietary method to attain an increase in the patient's weight, which is best attained by increasing greatly the quantity of fat given. An increase of 6-16 kg., an average of 10 kg., was always attained in three to six weeks. During the first four weeks all hydrotherapeutic or electric treatment should be avoided absolutely.

In 79 per cent. of the cases the cures were complete.

Strychnin and Persodin.—PROF. G. BUFALINI (*Archivio di Farmacologia Sperimentale*, II, II; *ref. in Centr. f. d. ges. Ther.*, Vol. 21, H. 4).—But a short time ago several cases of tetanus were reported cured by the injection of a 5 per cent. solution of sodium persulphate. This was thought to be accomplished by neutralizing the tetanus toxin by means of persodin. The author was thereby induced to publish several tests he had made concerning the antitoxic action of persodin in experimental strychnine poisoning. The thought that lay at the root of his investigations depended on the strong oxidizing power of persodin, which could be ascribed to the instability of persulfuric acid: $S_2O_8H_2 + H_2O = 2H_2SO_4 + O$.

Persodin is a mixture of sodium and ammonium-persulfate, prepared according to a special method by A. and L. Lumiere, and it was only to be expected that this remedy would prove a chemical antidote to strychnia, inasmuch as it converts strychnine to oxystrychnine or strychnine acid, both of which are far less poisonous than strychnine itself. It is also possible that the elimination of the poison occurs not only through oxidation, but also through the formation of persulphate of strychnia, which is only slightly soluble. As a matter of fact, after strychnine has been treated with persodin, the well-known characteristic strychnine reaction by means of nitric acid and potash can no longer be obtained. Experiments were made on rabbits with doses of strychnia always in excess of the fatal amount (0.0006 per kilogram). The solution of persodin was injected either before or afterwards, in the vicinity or distant from the point where the strychnia had been applied. The experiments showed that persodin had a favorable influence on the course of the poisoning both before and after the injection of strychnine, even where the dose reached double the fatal quantity. If a solution of persodin and strychnine be injected into the peritoneal cavity, either independently or at the same time, the symptoms of strychnine poisoning either disappear, if they have already developed, or may not be manifest at all. If persodin is previously neutralized, it cannot retard strychnine poisoning. Since we cannot here be dealing with a physiological antidote, for persodin possesses no sedative powers either on the spinal cord or on the sensory nerve endings, the action must be ascribed to a chemical neutralization. This is confirmed by the observation that even if seven times the fatal dose of strychnine be mixed with persodin, the injection causes no symptoms of the action of strychnine. Hence the antitoxic action of persodin is stronger if persodin and strychnine are introduced into the body in the same manner than if they do not act upon one another except by means of the circulation. At any rate, persodin can be regarded as an effective antidote against strychnine.

The Therapeutic Use of Blue Electric Light.—DR. DANILOW (*Klin. Ther. Wochenschr.*, 1902, No. 45, *ref. in Centr. f. d. ges. Ther.*, April, 1903).—The author

reports a series of cases treated successfully with blue electric light, which are calculated to make this procedure popular. In one patient, who had suffered continual pain in both shoulder-joints, exacerbating with particular severity during the night, complete cure was obtained in nine treatments. Four treatments sufficed in an old neuralgia of two years' duration in both shoulder-joints. A sciatica that had lasted four years was overcome in seven applications. Another case of sciatica that had succeeded an attack of influenza was fully cured in the fifth sitting. On trigeminal neuralgia also the effect of this remedy was striking. In one case with severe constant pain in the region of the left mandibular joint, radiating along the left half of the lower jaw and the left temporal region and in which the attacks took on fully the character of a malarial paroxysm in their origin and appearance, a cure was effected in a few sittings together with the administration of quinine. Blue electric light is also successfully used in bronchial asthma of nervous origin. The author reports two cases in which the illumination of the larynx and trachea externally, together with the anterior surface of the chest and the accessible portions of the throat with the blue light of an ordinary lamp for a period of twenty minutes invariably aborted the attack.

Stability of Diphtheria Antitoxin.—DR. CHIARDINI (*Merck's Berichte*, 1903, p. 150).—The author has made a series of investigations in regard to the keeping qualities of diphtheria antitoxin. He finds that the preparation becomes inert after four years, its curative power is considerably diminished after three years; it remains intact for two years; mere turbidity does not impair its activity; the addition of antiseptics does not injure the article, nor do ordinary changes of light and temperature.

Lactose Therapeutically.—DR. HUCHARD (*Merck's Berichte*, 1903, p. 105).—Lactose, combined with calcined magnesia, is an excellent laxative, antacid and diuretic. The admixture of milk-sugar renders the magnesia more soluble in water, disguises its taste and enhances its laxative action. The formula Dr. H. uses reads:

R Lactose	60 gm.
Heavy calc. magnesia	90 gm.

A dessertspoonful to a tablespoonful daily, in half glass of water.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

On the Mechanism of Absorption of Granular Materials from the Peritoneum.—MCCALLUM (*Bulletin Johns Hopkins Hospital*, May, 1903).—This paper is the more important as its results, although new, nevertheless have been foreseen by a number of investigators. Lately McCallum has shown that the lymphatics within the tissues form everywhere a perfectly closed system, and that the old conception of a direct communication with tissue-spaces cannot be confirmed by any histologic picture. In this paper he takes up the important question of the absorption of granular material by serous surfaces, in particular the peritoneum. While the text-books still continue to declare the presence of stomata as normally existing openings between the endothelial cells, McCallum shows that they do not exist, and that the peritoneal epithelium forms everywhere a uniform membrane without any lacunæ or clefts between the cells. He studied

the absorption of granules, especially from the diaphragmatic portion, and could distinctly demonstrate that the epithelium of the peritoneum and the endothelium of the adjoining lymphatics are in no direct connection with each other. Granular material passes between the cells through the "Kittsubstanz," enters into the spaces between the underlying connective tissue cells, and finally penetrates into the lymphatics in the same way in which it passed through the peritoneum. Similarly leucocytes and macrophagic cells make their way, and thus assist in the transportation of the material. That these cells are not the *conditio sine qua non* for it, is proved by the fact that during procedures keeping away the migrating cells the absorption of the material occurs just as well and to the same distance as under normal conditions. The many interesting points and sidelights of this fascinating paper must be enjoyed in the original.

Does a Primary Pathologic Condition of the Epithelium Exist that Leads to Tumor-Formation?—G. HAUSER (*Ziegler's Beitræge zur Pathol. Anatomie*, Vol. 33, Heft 1, 1903.)—The writer describes some solid intestinal polypi in which the microscopic examination distinctly has shown that the normal epithelium directly changes into carcinomatous tissue. In this case there is no chance for the occurrence of the law of Ribbert; that means that epithelium, to become carcinomatous, must be previously torn from its normal situation and transplanted into connective tissue. Similar observations have certainly been made by various observers on the same material. It is interesting to note that an observer so careful and conservative as Hauser does not hesitate to express the opinion; there are distinct morphological differences between normal and carcinomatous epithelium. They are certainly there, and, although it may be under circumstances difficult to definitely describe them, their appearance is so characteristic that it alone will allow of a true interpretation of the nature of a suspected tissue. This does not only hold good for the new formations studied by Hauser, but also for other epithelia; for instance, that of the uterus.

About the Possibility of Immunizing Guinea-Pigs Against Tuberculosis.—E. LEVY (*Centralbl. fuer Bacteriologie*, Band 33, No. 9, 1903.)—The communication of the author on this subject is of great importance in view of the fact that, following the lines of Behring's experience, it seems that our fight against tuberculosis will resolve itself in the finding of a suitable method of vaccination against it. Levy found by experimentation that virulent tubercle bacilli emulsified in glycerin gradually lost their virulence. While after one day little of the virulence was lost, they caused after six days hardly any symptoms in guinea-pigs; therefore, guinea-pigs were inoculated successively with cultures that had been kept in glycerin for six, five, four, three and two days, injections which the animals tolerated without any consequences. If, then, such an animal was inoculated with the one-day glycerin culture, that in control-animals invariably caused death from generalized tuberculosis in about the same time as the fresh culture, only a local induration and abscess-formation ensued, which soon healed. The autopsy of these animals, held after they had been kept for a long time after the healing of the abscess, showed not a trace of tuberculosis anywhere. If we remember that the species of animals chosen for these experiments is the most susceptible one known to us, to bovine as well as human tubercle bacilli, we have a right to hope that it will be only a question of time before a method suitable for the species man will be elaborated. The paper of Levy corroborates independently all of the conclusions that Behring's latest publications involved.

On the Evidence of Nuclear Division of Certain Cell-Inclusions in Cancerous Epithelium.—H. R. GAYLORD (*Buffalo Medical Journal*, May, 1903.)—The man who presented us with the discovery that carcinoma is a disease that can be

transmitted by germs contained in the blood of cancer patients, who promised to report about experiments that proved the producibility of carcinoma by his parasites, has come down now to the demonstration of certain formations in his so-called parasites that suggest that in them there is taking place a nuclear division, mitotic or amitotic, that does not matter. After giving a review of the literature and copying many illustrations of other authors, Harvey R. Gaylord adduces as evidence for nuclear division in cancer parasites certain juxtapositions and arrangements of the cell-inclusions that in a tissue would look as the result of successive cell divisions. The parasite has been reduced now to a nucleus, and its protoplasm is eagerly sought for in the protoplasm of the host cell. The paper serves one good purpose—that is, to demonstrate to what degree of absurdity preconceived ideas may lead in the interpretation of things for which hundreds of other explanations are possible. The ludicrous referring to a myxomycetous organism—an organism about which the author knows as little as *Podwysosзки*—stamps this form of hunt for parasites in carcinoma as a farce.

Experimental Hemoglobinuria in a Case of Blackwater Fever.—ROSS and LOW (*Journal of Trop. Medicine*, May 1, 1903) report the case of a man about whom inquiries were made as to the possibility of employing him further in a certain position in West Africa. He had been there for about one year, and had had several attacks of malaria. The last time, before his return, after a dose of ten grains, he had an attack of blackwater fever. Returned, he continued the prophylactic use of ten grains of the substance, and had several blackwater fever attacks. Taken to the hospital, Ross made a careful examination of his blood: found no parasites, but a percentage relation of the leucocytes as seen after malaria. As an experiment to test his assertion that quinine caused blackwater fever with him, after some days ten grains were given. After four hours the attack set in in a typical manner, and lasted for about six hours. Blood examination before and after the attack showed that the corpuscles had been reduced during this time 635,000 to the cubic millimetre. During no time were any plasmodia or pigment found. The experiment is a complete confirmation of Koch's observations, and, in addition, it comes from England.

Pyronin-Methylgreen, a Brilliant Double-Stain for Cells and Bacteria.—W. F. WHITNEY (*Boston Medical and Surgical Journal*, May 7, 1903) writes a short recommendation of this stain. It is surprising how slowly important improvements of technique and methods gain a place with us. The pyronin stain in combination with methylgreen is one of the most valuable additions to our armamentarium, and for certain purposes cannot be dispensed with altogether. There is no stain that will differentiate Unna's granoplasma more definitely than pyronin. The value, however, does not lie in the differentiation of cells in smear specimens, as Whitney says. This can be done and ought to be done always by the Eosine-Azur method, that is superior to any other method. The results with the latter are much more uniform and reliable than with pyronin. But the value of the pyronin lies in the fact that by it we are able to differentiate plasma cells and granoplasma in sections with an elegance and definiteness that is never reached by the most perfect polychrome specimens of Unna. Unna himself has suggested this method, but it seems to have escaped the author of this paper.

Chorionepithelioma-like Proliferations in the Male.—E. STEINHAUS (*Wiener Mediz. Wochenschrift*, No. 17, 1903) describes a case of tumor of the testicle that contained malignant proliferations in no way differentiable from the tissues of chorionepitheliomata. The first case of this kind was reported in England in 1897, but not recognized. Since then several other cases have become known

that, in a classic paper, were dealt with by Schlagenhauser. He himself added a new case to the list. The tumor of Steinhaus could, according to our modern views, only be called an embryoma. Omitting theoretic considerations, therefore, we must today, in discussing chorionepithelioma, not emphasize the question of pregnancy, but accentuate the line of thought by the sentence: without embryo or embryoma no chorionepithelioma. Another very important consequence of these investigations is the final and conclusive end of the heated discussion about the origin of the syncytium, which certainly must be fetal.

About Formation and Retrogressive Changes in Gouty Tophi.—RINDFLEISCH (*Virchow's Archiv*, Vol. 171, Heft 3).—The old and venerable master, Eduard Rindfleisch, expatiates in this article in a remarkably objective way on his own case of gout. Of interest are his investigations of a tophus that was extirpated from his olecranon. He comes to the conclusion that the well-known giant cells found at the boundary line between the urate deposit and the inflammatory connective tissue formation around it are phagocytes, to which, under favorable circumstances, a disintegration and disappearance of the tophi can be ascribed.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Vaginal Panhysterectomy Without Anesthesia.—GRADENWITZ (*Centralbl. f. Gyn.*, May 2, 1903).—To the many generally recognized advantages of the vaginal route a new one has been added, one that certainly is of extreme practical importance. Gradenwitz shows that the uterus may be extirpated through the vagina without the use of an anesthetic. He reports the histories of three cases.

1. Patient is thirty-four years old, is very anemic and in a well-advanced stage of consumption. Operation lasts twenty-five minutes. Patient experiences pain only when the following four ligatures are placed: on the lowest portions of both broad ligaments, on the uterine end of the right tube and on the left infundibulo-pelvic ligament. Recovery undisturbed.

2. Patient is sixty nine years old; cannot be anesthetized on account of a large struma. Diagnosis: Total prolapse of uterus. Operation: Hysterectomy, anterior colporrhaphy and perineorrhaphy. Uneventful recovery.

3. Patient is seventy years old. She is anemic, has a myodegeneration of the heart and is in extremely poor general condition. Panhysterectomy was performed on account of a beginning carcinoma of the cervical portion. In this case the ligaments were anesthetized with Schleich's solution and in this way the operation rendered entirely free from pain. Exitus occurred two and one-half hours after the operation.

A Study of the Degenerations and Complications of Fibroid Tumors of the Uterus From the Standpoint of Treatment of These Growths.—CH. P. NOBLE (*American Gynecology*, April, 1903).—Professor Martin of Berlin made some time ago the statement that while fibromyoma of the uterus belongs to the benign tumors from its histological character, it must be classed among the malignant new-growths, considering its clinical features. In 1901 Noble read a paper on the degenerations and complications of myomata before the British Gynecological Society that excited a good deal of interest among the gynecologists of the world. It stimulated the publications of the noteworthy papers on the same question by Cullingworth and Frederick, both writers concurring in Noble's view that our

attitude as regards the treatment of myomata should become a more active one. In this new publication Noble takes the 258 cases of his own observation as a basis for a very careful analysis and draws his final conclusions from a total of 688 cases of fibromyomata in the hands of four surgeons. This place will not permit of giving in detail the figures of the strikingly high percentage of complications of fibroma of the uterus with appendicitis, hydrosalpinx, ovarian cysts, etc., or of the great number of cases in which necrosis or malignant degenerations have occurred. It may suffice to state explicitly that the author's conclusions, being apparently very radical, are based upon indisputable facts. In his belief death will result in about one-third of all myomata of the uterus if not submitted to operation. In more than one-fourth the result will be chronic invalidism. The percentage of those cases that are not incommenced to a noteworthy degree is very small. The disappearance of fibromata during the menopause is merely one of the curiosities in the history of these growths. To expect a disappearance is entirely unwarranted. Early operation in the case of young women having one fibroid or a number of small ones, affords the truest opportunity for conservatism, by curing these women of their disease and at the same time retaining their organs of reproduction. The attitude of the text-books should be reversed and the rule of practice should be to remove all fibroids which come under observation, unless in a particular case there seems to be a good reason for temporizing, due either to the small size of the tumor, or to the advanced age, or to the general health of the patient.

Nourishment by Ovarian Cystic Fluid.—MANDILLON (*Soc. de Med. et de Chir. de Bordeaux*, May, 1902; *rev. Brit. Med. Journ.*, February 7, 1903).—The author believes that ovarian fluid may feed a patient by absorption. A patient under his observation had an ovarian cyst containing about eight gallons of fluid. Suddenly the patient was attacked with stricture of the esophagus, which was due to a new growth; henceforward no food could be taken by the mouth. She lived forty days without food. When she died no fluid remained in the cyst.

Quintuplets.—SATO (*Sei-I-Kwai Medic. Journ.*, 1902, No. 3; *rev. Amer. Journ. of Med. Science*, January, 1903).—The mother of the quintuplets was a multipara, aged thirty-seven. Parturition took place at about the eighth month of pregnancy. Labor proceeded spontaneously. First child, boy, was delivered covered with the membranes; four minutes afterward the second child, a girl, was delivered; five minutes later the third child, a boy, was born, followed by a common placenta for the first and second child; after another five minutes the fourth child, a girl, was delivered by the feet, and another placenta for the third and fourth child was expelled. It was then supposed that all the children had been delivered. On examining the abdomen a fetal head was felt above the navel, and upon gentle pressure the fifth child, a boy, was brought down and delivered. A single placenta for this fifth child was shortly afterward discharged. There was a moderate hemorrhage which ceased upon tamponing and compressing the uterus. The first placenta weighed 666 grammes, the second 685, and the third 277. The weight of the children varied from 111 grammes to 1555. The children soon succumbed.

Four Fetal Malformations in One Family.—A. I. ESSLEMONT (*Brit. Med. Journ.*, February 7, 1903) records the following history of four malformed babies born by the same mother:

Woman of twenty-four years, healthy, the wife of a collier, married six years. In that time she had five full term children. 1. Male, born with large spina bifida in lumbo-sacral region. 2. Male, free from any abnormality. 3. Male, apparently healthy, but with marked phimosis and complete occlusion of

the preputial orifice. On splitting the prepuce there was found a congenital stenosis of the urethra. 4. Female with an occipito meningocele about the size of a small orange. 5. An encephalic monster.

There is no history of syphilis or falls or blows. The patient tells that her mother had a child born "with the back broken."

A Kidney in the Umbilical Cord.—(J. M. HORTON (*Northwest Medicine*, April, 1903; *rev. Americ. Med.*, May 9, 1903).—A primipara was delivered of a male child weighing nine pounds. A tumor of the size of a hen's egg was present in the umbilical cord just outside the abdominal cavity. The cord was ligated beyond this. Then the layer covering the tumor, which was supposed to be a blood clot, was cut with a pair of scissors, the tumor itself, which proved to be a kidney, being wounded by this procedure. The wound in the kidney was closed with two catgut sutures and an attempt made to replace the organ in the abdominal cavity. The umbilical opening being too small it was dilated with artery forceps until the kidney was admitted. Six catgut sutures were then placed to close the ring. The child was afterward doing well.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Chronic Splenomegaly in Early Hereditary Syphilis and Its Diagnostic Importance.—MARFAN (*Rev. Mens des Mal. de l'Enf.*, May, 1903) believes that in the first years of life syphilis is the most frequent cause of chronic splenic hypertrophy. The syphilitic splenomegaly of nurslings is nearly always accompanied by anemia, sometimes mild, sometimes severe. In the latter case it may take the form of pseudo-leukemic splenic anemia. Very often there is associated with the splenomegaly a certain amount of hepatic enlargement, and more or less polyadenitis.

In some cases of syphilis hereditaria precox, these may be the only signs and symptoms of the condition, and this variety can be designated as the pseudo-leukemic form of hereditary syphilis.

The finding of a markedly enlarged spleen has thus a great value for the diagnosis of hereditary syphilis, and the enlarged spleen should always be looked for. The co-existence of splenomegaly and rickets does not permit the exclusion of hereditary syphilis from the diagnosis, because in two cases out of three with such co-existence, signs of syphilis, probable or certain, can be found if search be made for them.

Similarly, when splenomegaly co-exists with the symptom complex of pseudo-leukemic splenic anemia, the signs of syphilis will be found in 50 per cent. of the cases.

Serum-Therapy in Diphtheria.—COMBY (*Archives de Med. des Enfants*, May, 1903) gives an exhaustive review of the present status of the antitoxin treatment of diphtheria.

The dose of antitoxin should be proportionate to the age of the case. Children under two years should receive an average dosage of 2000 units; children older than this, 4000 units. For infants under six months 1000 units will ordinarily suffice. In cases of grave diphtheria or cases coming under observation late, and in cases of laryngeal diphtheria, these doses should be doubled or tripled and repeated in twenty-four hours, if necessary. In some cases very

large dosage is necessary—up to 20,000 units. The serum exercises a destructive effect on the false membrane, and this within thirty-six to forty-eight hours. At the same time it prevents the spread of the process, saves the larynx if not already affected, and delays or prevents the necessity for intubation and tracheotomy, or renders their results more favorable. The local effects of antitoxin are manifested on false membrane wherever situated—eye, nose, vulva, skin, etc.

Its systemic effects are demonstrated by diminution of fever, and by improvement in the general condition. It causes a temporary increase in the number of red cells and a temporary diminution of the white, but these changes are ephemeral.

Serum should be injected in suspicious cases, without waiting for the results of bacteriological examination. "It is better to make a hundred needless injections rather than one too late."

Whether the diphtheria is benign or severe, pure or a mixed infection, the indication to give a good dose of antitoxin in every case without delay, is absolute. It should be used in all forms of diphtheria, and for any manifestation. It should even be injected in the later manifestations of the disease (paralysis) if it has not been used previously in the case. So far as contraindications are concerned, in severe diphtheria the author recognizes none. These cases should be injected without delay at all hazards. For mild cases the presence of manifest tuberculosis affords a contraindication to the use of serum, because the injection of the serum in these cases is followed by a marked febrile reaction, possibly indicating an irritation of tubercular foci.

Diphtheritic albuminuria is no contraindication to the use of serum. But albuminuria dependent upon chronic Bright's may be, because the antitoxin is doubtless a renal irritant, and may in such cases provoke an uremic attack. Under these circumstances the serum should be used carefully and in small doses.

With reference to the results of serum therapy, it may be safely affirmed that it has reduced the mortality from diphtheria by three-quarters. In pre-antitoxin days, fifty children out of one hundred with diphtheria died, now the mortality has fallen to twelve to fifteen per cent. The mortality increases with delay in the administration of the serum. With administration of antitoxin on the first day the mortality is *nil*, in cases where its exhibition is delayed to the fourth or fifth day, it runs up to fifteen to twenty per cent.

Prophylactically, the serum is of decided value injected into children who have been exposed to contagion. The immunity conferred is only temporary, not exceeding three to four weeks. Where diphtheria has appeared in schools, hospitals, etc., the mortality of promptly immunized children has been less than one per cent., while that of non-immunized children has equaled ten per cent.

Comby gives all patients entering his whooping-cough, scarlet fever and measles wards a preventive inoculation. This practice has been successful in keeping diphtheria out of these wards.

With reference to bad results of antitoxin, the author denies in the first place, that the serum produces albuminuria very often. This symptom is usually due to the diphtheria and not to the antitoxin.

Paralyses are more common after antitoxin than they were formerly, because many severe cases which, under any other treatment would have died, have been saved. The proportion of late complications arising from these severe cases has thus necessarily become larger. According to Comby, the frequency of these paralyses is only another proof of the value of the serum.

The real "accidents" of the serum are the various exanthems which follow its use, in sixteen per cent. of the cases observed by the author.

These exanthems are due to the introduction of the serum (an animal serum of different species), not to the antitoxic properties. They may appear early or late, even later than fourteen days after the injection. They may be ac-

accompanied by fever. It seems impossible to prevent them at this time, or to prevent the myalgias, joint pains, or slight albuminuria that sometimes supervene. But, inasmuch as none of these accidents are of any real moment, they should never prevent any one from using the serum which is doubtless a sovereign remedy for diphtheria.

Suicide in Children.—MAPES (*Medical Age*, April 25, 1903) calls attention to the increasing frequency of suicide in children. After excluding the ordinary causes of suicide in adult life, such as temporary mental aberration, marital, domestic or financial difficulties, illness, religious excitement, etc. (which, according to the author, are not determining causes in childhood), Mapes concludes that the actual causes are as follows: (1) Suggestion or example, especially as the result of lurid newspaper accounts of suicides; (2) grief, anger or desire for revenge, because of real or imaginary injury, such as punishment or reprimand by parent or teacher; (3) jealousy, envy or humiliation.

He believes that the daily press is the real determining influence in many cases, thinking that the glaring accounts published in all possible detail, with emphasis on all minutiae have a most pernicious influence on the mind of the child.

He reports several cases of suicide in children where the act was prompted by sudden anger or grief, and where the method used showed conclusively the effects of reading the detailed accounts of similar cases to be found in nearly all newspapers today.

The Occurrence and Mortality of Typhoid Fever in Infants and Children.—KOPLIK (*Archives of Pediatrics*, May, 1903) calls attention to the fact, which is becoming more and more recognized, that typhoid does occur in the later stages of infancy. He believes that the mortality in cases under two years of age is larger than is commonly appreciated.

Attention is called to the series of cases collected by Griffith, and to that of Marfan. In both of these the mortality ran up to fifty per cent. In childhood the mortality from typhoid is much lower, though the incidence is much greater than in infancy.

Thus he has found three series of cases, collectively numbering 190 cases, in which there was no mortality. On the other hand, Henoch, in 381 consecutive cases, had a mortality of thirteen per cent; Ashby and Wright, in 592 cases, eight per cent.; Comby, in 250 cases, seven per cent. Holt took 2,603 cases of twelve different observers and found a mortality of five and four-tenths per cent. It is evident that in studying the question the varying severity of different epidemics must be borne in mind. In the author's own series, in some years the mortality did not exceed three per cent., in other years it ran up to ten per cent.

The dictum is true of children as well as of adults, that the mildest cases may suddenly show the most severe complications. The author is, therefore, not inclined to believe that typhoid is such a mild disease in childhood as it has been supposed to be. Taking all factors into consideration, he thinks the mortality at this time of life is about as great as during adult life.

The causes of death are almost the same in childhood as in later life. Toxemia is the most frequent cause of death, then follow hemorrhage, pneumonia and perforation, the latter complication not being uncommon in the typhoid of childhood.

Post-Diphtheritic Paralysis Affecting the General Nervous System.—PETER (*Pediatrics*, April, 1903) believes that the frequency of diphtheritic paralysis is in direct proportion to the severity of the infection, though at times severe palsy may follow a mild intoxication. Early childhood furnishes the greatest number of cases. The proportion of cases showing paralysis has been variously esti-

mated at from ten to thirty per cent. In 1,316 cases reported by Myers, 275 (twenty-one per cent.) were followed by palsy.

The cause of the lesion is the toxin elaborated by the bacillus. The paralysis may be divided into four groups: Those showing (1) purely muscular change; (2) polyneuritis; (3) lesions of the spinal cord with resulting muscular atrophy; (4) cerebral hemorrhage, due chiefly to circulatory change.

The paralyzes usually come on during convalescence.

In the severer forms the child becomes absolutely bedridden. To the paralysis of the extremities may be added paralysis of the heart and respiratory muscles. These cases are of course the most dangerous ones.

Of the local paralyzes the following are the more common, named in the order of frequency: palatal, ocular, cardiac and diaphragmatic.

The direct cause of cardiac failure is not myocardial change alone; organic changes of cardiac nerve structure are also present.

The author then gives the symptoms of these various types.

He believes that the general prognosis, except in the cardiac or diaphragmatic cases, is good.

With reference to treatment, he believes that antitoxin in large doses, early in the disease proper, is a prophylactic agent of great value.

Paralyzes are of course common after serum, but this is because some cases which would otherwise die recover, but owing to the intensity of the infection develop late paralyzes.

Of actual methods of treatment, Peter would lay most stress on absolute rest, both during the disease proper and later when the paralysis has appeared.

Of drugs, strychnia and iron are the most valuable, though the former is contraindicated in cases of cardiac involvement.

In respiratory paralysis, artificial respiration has been known to save life.

ORTHOPEDICS.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

Genu Valgum, a Late Development; the Ogston Operation.—L. OMBREDANNE (*Revue de Orthopedie*, March, 1903).—Knock-knee is not a disease, but a symptom due to disturbances of nutrition, and may follow infections such as osteomyelitis, typhoid and various fevers, and quotes McEwen as saying that out of one hundred consecutive cases, forty-seven were due to an epidemic disease. While most cases develop in early youth, these cases are capable of becoming aggravated later on in life, even to a marked extent, and after a long period of quiescence, usually, however, as a concomitant of osteomyelitis. A case of a woman of forty-seven, who had universal joint disease at thirteen, with deviation at that time, which, however, after ten years, became quiescent, and remained so for thirty years, and then again gave trouble, with a great increase of deformity. This was relieved by an oblique osteotomy of the internal condyle, as practiced by Ogston, which when pushed up brings the leg well in line, and for cases of bad deformity is much more efficacious than McEwen's osteotomy above the condyles, but is fraught with more danger to the joint, which is opened by this procedure.

Bloodless Epiphyseolysis for Genu Valgum Adolescentium. — MAX REINER (*Zeitschrift fuer Orth. Chirurgie*, Band xi, Heft 2).—The author aims to slide the lower epiphyses inward and straighten the bone without much trauma, and so

as not to interfere with nutrition or subsequent growth. This is accomplished by fixing the lower end of the femur in a block, with its lower 1 cm. overhanging and by a regular not excessive pull to dislodge the epiphysis and straighten the bone. This method is claimed to be the simplest, easiest and most rational method of correcting the deformity. The separation is smooth and bloodless, and healing is excellent. The after-treatment is to confine the limb in plaster of paris for five to seven weeks. The apparatus is pictured, consisting of a well-padded block with a cross beam that catches the thigh firmly.

Old Irreducible Dislocations of the Shoulder-Joint.—A. F. JONAS (*Annals of Surgery*, May, 1903).—Seven cases show many of the difficulties encountered in the reduction of old dislocations of this joint. One case, of three months' standing, was reduced easily by Kocher's method without anesthesia. A fracture of the surgical neck followed manipulation in another case of four months' standing, and the head was left in its dislocated place, the author being content with a flail joint, which, however, was free from pain, where previously the pain had been intense. In another case, complicated by an impacted fracture of the head and also of the margin of the glenoid fossa, the head was sawed off and removed, while in a case of ununited fracture of the neck, with dislocation, the head had to be removed because it could not be made to stay in the glenoid fossa. The open operation had to be resorted to in six out of the seven cases. No typical operation could be performed in any of the cases.

Lipoma Arborescens.—C. F. PAINTER—WM. G. ERVING (*Boston Med. and Surg. Jour.*, March, 19, 1903).—Seven cases of this not uncommon disease are recorded, the condition being recognized pathologically, but surgically not receiving much attention. The knee-joint is most frequently affected. The condition of apparent tumor formation is nothing more than the end result of villous hypertrophy, but clinically is more important to recognize, as the removal of the growths relieves the symptoms. These growths are not necessarily due to tuberculous infection, not one of this series being tubercular, and consequently radical operations, which have been resorted to at times, are not indicated because one finds villous hypertrophy on opening the joints. Clinically these cases have more or less swollen joints, without any signs of acute inflammation, and usually without any excess of fluid. The function is imperfect either with or without pain and sometimes "locks" in a partially flexed position, and can only be straightened after considerable effort. The lipomata may vary in size, getting as large as a good-sized hen's egg, and consist of fat, with more or less fibrous tissue. All of the cases recovered satisfactorily after removing these growths through small incisions, and exploration is encouraged in knee-joints where any doubt exists as to the nature of the pathological process.

Congenital Dislocation of the Hip—Death Following Bloodless Reduction.—WILSON-PUGH-COPLIN (*American Medicine*, May 23, 1903).—The child, seven and one-half years old, was weak and anemic, and suffered with a double dislocation. The first side operated took twenty-five minutes, during which the pelvis was fractured (though not recognized), and the skin of the region about the hip split open in several places, but as the child's condition was good the second hip was attempted and manipulated for fifteen minutes without replacement.

The anesthesia of an hour or more was followed by a good recovery, but several hours later became delirious and needed much stimulation, which revived it for a time, but it died before twenty-four hours had passed. Post-

mortem showed extensive hemorrhagic infiltration about the hip joints, and neither head of the bones being in the cotyloid cavities, but resting on the upper outer margin of the acetabulum, and the ligamentum teres on either side was so long and large that it filled the joint cavities completely. The autopsy further showed a perforate foramen ovale, atheromatous arteritis of aorta and coronaries, general tubercular lymphadenitis.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

A Further Contribution to the Dietetic Treatment of Epilepsy.—BALINT (*Neurolog. Centralbl.*, No. 8, 1903).—The salt-starvation method of treating epilepsy has had such varying results in the hands of different investigators, and so much controversy has arisen concerning its efficacy, that Balint, who was among the first to try it and whose original article, published in 1901, has been so often attacked, has felt constrained to experiment further in the matter and this paper is the result of his further observations. The original diet proposed by him consisted of 1000 grams of milk, 50 grams of butter, three eggs, fruit and 300 to 400 grams of bread in the preparation of which the NaCl was replaced by NaBr. In 80 per cent. of his cases the attacks were less frequent and in some of them disappeared entirely. This therapeutic result took place without regard to the severity of the epilepsy or whether the case was recent or an old one. In some cases with the return to the old diet the attacks appeared again with their former intensity. In this paper Balint attempts to answer the two following questions: 1. Whether it is possible to keep up this diet for a long period of time, and 2. whether toxic symptoms intervening would necessitate an interruption of the diet. In five cases of long-continued epilepsy, in which the attacks persisted in spite of large doses of bromide, the following results were obtained: In a case with a weekly average of eleven attacks, during nineteen weeks of treatment the attacks occurred twice weekly, with six weeks entirely free from them. In a case with ten to thirty attacks weekly, during twenty-seven weeks of treatment there were seventeen weeks free from attacks, and slight attacks of dizziness in the other ten weeks. In a third case, with one to nine attacks weekly, sixteen out of twenty-seven weeks of treatment were absolutely free from attacks. In a fourth case twenty-one weeks were free from attacks, and in a fifth case twenty-two out of twenty-seven were free from attacks. In all the cases cited above, during a six months' treatment, the number of attacks was reduced by 78 per cent. In addition to these cases, the author describes five others in which the treatment lasted from five months to one and one-half years. These are ambulatory cases, and after six or eight weeks of strict diet, are allowed to modify it, always, however, keeping the bread free from NaCl and the rest of the food likewise. All of these show the same remarkable reduction in the number and severity of the attacks. In respect to the amount of bromide given in the food, 3 grams was the average for adults, and 1½ grams for children. The author concludes as follows: The diet, which consists of milk, butter, eggs, fruit and bread baked with NaBr, causes, according to almost all investigators, a decrease in the number and a lessening of the intensity of attacks. Such a diet can be used for as long a time as the patient can stand it and where the state of nutrition of the patient remains good. In those cases in which the diet cannot be used, other kinds of food, such as vegetables, cereals and meat, which are cooked without salt and with NaBr can be given. In order to vary as

much as possible the different kinds of food, the weight of the patient should be taken weekly as a measure of its efficiency. By a continuous use of this method slight or severe symptoms of bromism can result, which, however, can be lessened by a variation of the diet or by temporarily giving it up.

Pathology and Pathologic Anatomy of Toxic Polyneuritis Due to Sulfonal.—ERBSLOH (*Deutsch. Zeitschr. fuer Nerv. Heilkunde*, 3-4, 1903).—On account of the common use of sulfonal for insomnia any contribution to the untoward effects is of great interest. Wien in 1898 reported a case of sulfonal poisoning with neuritic symptoms resulting from the use of 22 grams of sulfonal for one and one-half months. Since then a number of cases have been reported. Erbsloh records a case of a woman, suffering from carcinoma, who took 150 grams of sulfonal in five days. Five days after the last dose symptoms of neuritis developed, first in the lower extremities, then ascending. The hands and feet remained unaffected longest. Death resulted from paralysis of the respiratory muscles. Microscopical examination showed evidence of toxic neuritis. The cells of the anterior horns and the anterior nerve roots were not affected.

The Diagnostic Value of the Plantar Reflex.—HARRIS (*Rev. of Neurol. and Psychiatrie*, May, 1903).—With the growth of clinical investigation there has come about a belief in the infallibility of the plantar reflex as an aid in differential diagnosis where the pyramidal tract is thought to be involved. This is held to be true except in the cases of infants where the Babinski reflex is to be regarded as normal. In this paper by Harris four cases are described, two of functional paralysis and two of hemiplegia, in which the Babinski reflex differed from the usual rule. These exceptions illustrate the fact that there is no such thing as absolutism in clinical medicine, and that the Babinski reflex, like the ankle clonus and the once infallible sign of meningitis, has its exceptions. In two cases of hemiplegia of organic origin, the typical flexor plantar reflex was obtained, and in both cases of functional paralysis a typical Babinski was present.

Veronal, a New Hypnotic.—A. LILLIENFELD (*Berliner Klin. Woch.*, No. 21, 1903).—This new hypnotic has aroused considerable interest. Veronal was discovered by Fiseher and Von Mering. It is derived from certain uric acid preparations in combination with the ethyl group. It is a synthetically prepared compound, the hypnotic qualities of which were discovered by animal experiment. The chief advantages of veronal, as compared with other hypnotics of the same group, are the small effective dose, the absence of toxic after-effects, and its small cost. In most cases 0.5 gram, produces a seven to nine-hour apparently normal sleep. It is found effective in neurasthenia, hypochondria, hysteria, melancholia, and as a substitute in cases of morphine habit during the withdrawal period. The above report is based upon 450 doses in sixty cases of various nervous affections.

The Etiology of Tabes.—LEYDEN (*Berl. Klin. Woch.*, No. 20, 1903).—Leyden has so earnestly upheld the opinion that the origin of tabes is not syphilitic, and has so stubbornly resisted the trend of neurological opinion in this regard that some weight must be given to his point of view. Ever since the publication, some forty years ago, of his well-known monograph on the Grey Degeneration of the Posterior Columns, he has steadily held the opinion that the chief etiological factors were cold, trauma, exposure to dampness and wet, and exhaustion. In this last paper he shows no sign of changing his opinion. He brings forward several cases to illustrate his standpoint; they are as follows:

A 32-year-old merchant, in whom the first symptoms of tabes developed after a fall on the head. There was no luetic history. A 46-year-old clerk who had sustained several traumatic insults—the tabetic symptoms developed fully after a fracture of the leg. Three cases are described in which, with no history of lues, symptoms of tabes developed as a result of exposure to wet. Leyden calls attention also to the interesting observation of Kohnstam, according to which the fibres that have to do with sensations of cold and heat pass up the posterior columns, cross over to the Gowers column and can be followed to the formatio reticularis grisea. It is not improbable that a trauma, resulting from cold, affecting the peripheral nerves, can produce injuries analagous to a mechanical insult, and cause a degeneration in the posterior column neurona and spinal ganglions.

Contribution to the Study of the Achilles-Jerk and the Front-Tap.—WALTON and PAUL (*Jour. Nerv. and Ment. Dis.*, June, 1903).—Five hundred cases were examined for the presence of the Achilles-jerk; in only one case was the reflex found wanting in both legs, and on one side in four. The front-tap is obtained by tapping the tibialis anticus, with the foot flexed dorsally, the ankle resting on the knee of the examiner. The reflex consists in plantar flexion of the foot. In 500 cases the reflex was present in 37.5 per cent. of males, and in 41.3 per cent. of females. The conclusions reached by the authors are as follows: (1) The Achilles-jerk is practically as constant in health as the knee-jerk. This reflex varies less in health than the knee-jerk in excursion and activity, and is the most easily elicited and uniform of all tendon reflexes. (2) The Achilles-jerk disappears, as a rule, in tabes dorsalis, and its absence is as diagnostic of that disease as is loss of the knee-jerk. We have not seen a case far enough advanced to establish tabes with persistence of the Achilles-jerk, except one case in which both the knee-jerk and the Achilles-jerk were present on one side only. We have observed bilateral preservation of knee-jerk and loss of Achilles-jerk in two out of five cases of tabes. (3) Enfeeblement of knee-jerk in health on one side or both may be due to prior toxic influence, as diphtheria. This may also be true of the Achilles-jerk, though in the one case in which it could be demonstrated of the knee-jerk, the Achilles-jerk was normal. Further observation on this point is desirable. (4) The front-tap is present (generally on both sides) in about 40 per cent. of individuals in ordinary health; in some it is very active. It follows that its presence alone, even if active, does not establish disease, nor indicate excessive irritability of the nervous system. (5) In organic disease the front-tap is generally increased with the other reflexes in hypertonic, and decreased (generally wanting) in hypotonic states. (6) In the so-called functional disorders, hysteria, neurasthenia, and unclassified psychoses, we have found the front-tap present in 71 per cent. of cases. In epilepsy we have found it present in 75 per cent. of cases. The test may therefore here prove of aid in combination with other findings, though its mere presence or even activity is not of positive diagnostic value, nor does its absence negative the existence of neuropathic conditions. (7) Both these reflexes deserve to be placed upon the list of routine tests for purposes of diagnosis. This is particularly true of the Achilles reflex, which is of the greater positive diagnostic value.

GENITO-URINARY SURGERY

IN CHARGE OF

H. McC. JOHNSON, M. D.

Suppression of Urine, With Report of a Case Enduring Eight Days; Relieved by Decapsulation of the Kidneys.—WHITACRE (*J. Amer. Med. Asso.*, May 23, 1903).—After endeavoring to get the kidneys to secrete urine by resorting to various expedients, such as diuretics, diaphoretics, purgatives and saline infusions, and failing for eight days, the author did double decapsulation at one sitting. An incision into the capsules caused their edges to retract and the cortex to bulge through the incision as if under great tension. Complete capsulectomy was done. One hour after the operation the patient voided two ounces of intensely bloody urine. During the first twenty-four hours twenty-one ounces were passed. This increased in quantity as the days went by, and on the nineteenth day after the operation the patient passed eighty ounces, and was able to leave the hospital and go home, thus making a satisfactory recovery. The suppression came on after a uterine douche for infection following an abortion brought on by the patient by first taking ergot and then inserting a catheter into the womb, and was regarded by the author as due to vaso-motor disturbance, whereby a stasis of blood, probably under great tension, had occurred in both kidneys.

Some Points Pertaining to the Therapeutic Management of the Uræmic State.—STERN (*American Med.*, May 2, 1903).—Uremia is a complicated condition, and stands as a terminal for many causative factors. The serum of every variety of uremia possesses some distinctive feature. We have but to point to the fact that in the large white kidney the passage of the watery constituent of the blood is seriously interfered with; in contracted kidney there is nothing to prevent its flow. In the one there is a tendency to convulsions; in the other to a comatose state. The retention nitrogen, that is, that nitrogen remaining in the blood after complete removal of the albuminous substances, is 35 per cent. more in the blood serum of chronic parenchymatous nephritis than in normal blood, and in interstitial nephritis it is twice the amount found in chronic parenchymatous nephritis, the intermediate type containing more than the chronic parenchymatous and less than the interstitial. The enormous quantities of retention nitrogen in the serum of chronic interstitial nephritis undoubtedly stand in causative relationship to the natural termination of this disease—uremia. The inconsistency of pursuing the same plan of treatment throughout in cases of uremia, so unlike in their manifestations and arising from two (or more) so markedly discrepant substrata, is obvious. Sweating is indicated, and is of especial value soon after the onset of uremic phenomena, and its application has a greater salutary and more lasting effect in uremia having chronic parenchymatous nephritis as its foundation. Abstraction of blood is mostly of a transitory value, but serves a good purpose in many instances of uremia, especially in acute nephritic conditions, and more may be expected of it in the chronic parenchymatous than in the interstitial nephritis. Subcutaneous or intravenous introduction of a weak solution of sodium chloride produces diuresis, and compensates for the amount of blood lost by venesection. Its effect is more or less transitory. The solution should be .6 per cent (hypotonic). Small doses of morphine are of value in controlling uremic convulsions.

Uræmia and Its Treatment.—THOMSON (*Med. Rec.*, May 16, 1903).—According to Rose Bradford, if you remove two-thirds of both kidneys in dogs, the animals will live quite well, and actually pass more urine and more urea than they did

before the operation; but if you remove three-fourths, they are sure to die after a while, apparently because of excessive polyuria and excessive excretion of urea by the remaining fourth, the muscular tissues seeming to break down rapidly and decompose into the elements which go to form urea.

It would seem from this that in the case of the kidneys a small part is greater than the whole. The polyuria may find its explanation in the fact that in health much of the water that passes through the glomeruli is reabsorbed by Henle's tubes. The only theory advanced for the rapid breaking down of the proteid tissues throughout the body when so much of the kidney has been removed, is that of an internal secretion, which, in normal kidneys, controls and prevents undue waste of the nitrogenous tissues.

The sudden stoppage of the urinary flow, as by obstructive interference of the ureters, does not produce the symptoms of uremia which we are familiar with, but is followed by increasing weakness, with twitchings, the subject dying of pure asthenia. And so, in uremia there are a variety of poisons, some of which it may be possible to recognize by their own special properties. One of these special poisons seems to possess properties similar to an internal secretion in adjoining glands, the suprarenal capsules, and, like adrenalin, acts as a very powerful vasoconstrictor. Thus the author mentions a case in which the usual methods for controlling uremia failed, but tr. aconite in five-drop doses, every three hours, relieved the symptoms, although the heart originally was so weak that it was dangerous to raise the patient's head. The aconite evidently counteracted this uremic poison, relieved the vasoconstriction, and thus relieved the heart by diminishing its work. The kidneys are unusually liberally supplied with vasoconstrictors and vasodilators, showing a wide range in size under their influence. Suprarenal extract injected intravenously produces a most extraordinary shrinkage of the kidney. Aconite, the ideal vasodilator, relieves this condition best.

The author ascribes the arteriocapillary sclerosis of long-standing kidney disease to high tension first, rather than high tension to the sclerosis. Aconite, therefore, is indicated in those cases where the pulse remains both tense and frequent, but we cannot expect much from it when a wide-spread chronic endarteritis has already caused extensive obliteration of the smaller arteries. In puerperal eclampsia venesection or veratrum viride in large doses are indicated to relieve the urgency, aconite being too slow in its action.

Purely functional renal inadequacy, or at least inadequacy of the elimination of urea, not due to organic kidney disease, is very common, and is generally dependent upon gastro-intestinal derangements. In acute nephritis, of which scarlatinal nephritis is the representative type, the most certain of all diuretics in conditions threatening suppression is the rectal douche of normal saline solution at 115° F., hypodermoclysis also being of service. In those cases of Bright's disease which are suddenly taken with uremic convulsions as the first warning to the patient that the disease is present, the added element which brings about the attack is often septic invasion of the kidney, usually with the colon bacillus. Here a mercurial purge, followed every two or three hours by 10 gr. urotropin and 10 Gr. sod. benzoate, together with the hot saline rectal irrigation, act well.

The greatest remedy for auto-infection, and the best prophylactic against the manifold dangers of chronic intestinal nephritis, is life in the open air. That the systemic poisons in chronic parenchymatous nephritis and interstitial nephritis are quite different in kind is evident upon observing two advanced cases side by side. In the large white kidney the glomeruli are pressed upon by masses of round cells, which fairly stuff Bowman's capsules, and the tubules are choked by every kind of debris. Unlike the lung, which has a double blood supply, the single blood supply of the kidney will not furnish sufficient absorptive power to remove these impediments. It is in cases like these that Edebohl's decapsulation, by furnishing additional blood connection, is of service.

A Case of Dropsy, the Result of Inflammation of the Kidneys, Treated by Laparotomy.—PLANER (*The Lancet*, London, April 25, 1903).—The patient, aged thirty-one and one-half years, was very anæmic, and had almost a bilious complexion; the liver was enlarged, and the spleen and kidneys enlarged and sensitive to touch. The urine was very albuminous, the body enormously swollen and in a state of advanced ascites. A long abdominal incision was made, the fluid evacuated, a strip of peritoneum on each side of the wound exsected, and the wound closed. The patient made a good recovery, is free from dropsy, and is in good health, without albumen in the urine. The abdominal organs have returned to their normal condition. Before coming to the author, this case had been tapped at another hospital and dismissed as incurable, with the prognosis of her speedy decease.

Modifications of Technique of Epidural Injections.—CATHELIN (*Ann. des Mal. des Org. Genito-Urin.*, April 15, 1903).—The author's article, "Epidural Injections by Puncture of the Sacral Canal and Their Applications in Diseases of the Urinary Passages," has been translated into German by Strauss, and numerous physicians have experimented successfully with his method in France, but from a point of view purely analgesic. The author, with Albarran, was the first to utilize it in urology, especially in infantile incontinence of urine. Strauss has made several modifications in the technique of these injections, and particularly has made improvements in the needle, the syringe, and the composition of the injected solution. The solution giving the best results is:

R	Chloride of soda	0.2
	Hydrochlorate of cocaine	0.01
	Sterilized distilled water	100.0
	Carb. water, 5 per cent.	gtt. ij

Observations published after the author's by different writers have confirmed his first results, and have called attention to successes in some cases where other medical means have completely failed.

Indications for Massage of the Prostate.—GUEPIN (*Centralblatt f. d. K. d. Harn und Sex. Org.*, April 25, 1903).—In general, digital expression is always indicated if there is present an infected or stagnant secretion in the glands of the prostate and seminal vesicles. If there is hypersecretion with stagnation, without manifest infection, the glands must be emptied.

In acute localized or generalized prostatitis, massage of the prostate and seminal vesicles prevents a collection of pus in the glands and that remnant of inflammation which is usually overlooked and which is the beginning of a chronic prostatitis. Massage is indicated in subacute prostatitis, chronic prostatitis, tuberculosis of the prostate and senile prostatitis up to the second stage. However, massage is only indicated if the examining finger detects dilated glands which feel like small cysts or hard seeds, and which, if pressed upon by the finger, leaves a depression when emptied. Prostatic massage requires a specially trained finger, as much damage may be done by its unskillful use.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Case of Verrucæ Planæ Juveniles.—CHALMERS WATSON, M. D. (*Brit. Jour. of Dermatology*, May, 1903).—The interest in this case is the fact that the verrucæ disappeared under the influence of castor oil in doses sufficient to cause free evacuations of the bowels.

The patient was a boy of thirteen years. Scattered over his face, hands and legs were numerous small elevations, size of pin-head to a pea. They were of firm consistency and of a delicate pink or faintly yellow color. The size and appearance of the lesions varied from day to day. A tablespoonful of castor oil was given twice a week for the first week, and then once a week subsequently.

The disappearance of the lesions under an aperient suggests to the author that a chronic infection from the alimentary canal is an important etiological factor in these cases, and at the same time may afford an explanation of the variations in size and appearance just referred to.

In this connection it is of interest to note that the two classes of medical remedies that are recommended by most authorities for the treatment of verrucæ planæ are (a) magnesia, in small, oft-repeated doses sufficient to produce an aperient action (Crocker), and (b) the internal administration of arsenic, a remedy which has been proved to possess a stimulatory action on bone marrow (Stockman).

It is conceivable that the manner of action of these two classes of substances is substantially the same, the aperient getting rid of a focus of septic absorption, and thus enabling the forces of nature—*e. g.*, the bone marrow—to reassert themselves; the arsenic inducing a greater functional activity of the bone marrow, which, there is good reason to believe, is the most important means of natural defense in the organism.

Lupus Erythematosus: Some Illustrative Cases.—WILFRID B. WARDS, M. D. (*Brit. Jour. Dermatology*, May, 1903).—After citing numerous cases illustrative of his views, the author concludes by again affirming that lupus erythematosus is not a disease, but merely a stage in the course of many different affections—a step in the pathological ladder by which a damaged part, unable to achieve its own repair, is destroyed and replaced by fibrous tissue. In a certain class of individuals the repair is indefinitely prolonged, till it may appear to be altogether postponed, and then the condition becomes known as lupus erythematosus.

Secondary Eruptions in Small-Pox.—JAY F. SCHAMBERG, M. D. (*Jour. Cutaneous Diseases*, May, 1903).—In a certain proportion of cases the true small-pox eruption is preceded by a vast morbilliform, scarlatiniform or purpuric in character, which are due, no doubt, to the variolous poison. But there are other eruptions not so well known which commonly occur during the course of variola. It is to this latter class that the author wishes to call attention.

Impetigo Variolosa: During the period of desiccation and incrustation in small-pox, certain secondary changes commonly occur upon the skin; one of these is the development of sparsely distributed blebs containing a thin, dirty, yellow fluid, which may originate in several distinct ways, by appearing upon previously healthy inter-pustular areas of skin, or the pustule may be directly converted into the bleb. At times a pustule is seen one-half yellowish while the other half spreads out into a muddy-colored bleb. The blebs are commonly

flat, although at times they rise prominently from the surface and vary in size from a bean to a walnut; the epidermic roof being placid, wrinkled and thin, ruptures easily, emitting a thin yellowish fluid which dries in the form of an irregular crust. This form is most frequently seen on the hands and feet.

A more common change in the pustule is the development around the partially desiccated crust of a reddish vesicular ring, containing a turbid secretion; just beyond the border of the raised-up epidermis is a narrow pinkish band which indicates the spreading edge. These bullæ spread peripherally and central crusting proceeds concurrently with centrifugal extension. In this manner large, dirty yellow, friable crusts are formed and it is not uncommon for most of the pustules on the trunk and extremities to be complicated by this secondary eruption. Nearly all patients with unmodified small-pox present these "sores" upon the skin. Where this eruption is profuse, evidences of septicemia may occur and even death may be caused. Dr. Schamberg has found the normal pox pustule sterile. About the eighth or ninth day secondary infection occurs, when the impetigo variolosa begins. Smears and cultures at this period show various micro-organisms, staphylococci, streptococci, also pseudo-diphtheria bacilli. Cutaneous gangrene in the course of small-pox is usually preceded by impetigo variolosa.

The statement appears to be justified that impetigo variolosa increases the liability to deeper pyogenic infections, boils, abscesses, erysipelas; it moreover appears to bear a relationship to the development of certain post-variolaous rashes.

Secondary Toxic or Septic Rash: This rash occurs during the stage of decrustation, between the sixth and twentieth day, by the development upon the trunk, extremities or face of an erythematous eruption, consisting of a diffuse, dusky, punctated redness similar to that of scarlet fever, or at times it may be morbilliform.

Secondary rashes are not infrequently accompanied by rise of temperature. The scarlatiniform is the type most commonly seen. The post-variolaous rashes are in all probability septic or toxic, due to the absorption of some poison into the blood.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

The Employment of Light as a Therapeutic Agent in the Treatment of Chronic Pharyngitis.—STREBEL (*Archiv fuer Laryngologie und Rhinologie*, Band 14, Heft 1).—After having studied the action of light on the skin, as employed by Finsen, the author employed it in diseased conditions of the pharynx, with the result that catarrhal swellings were absorbed and a return to the normal of the mucous membrane was soon brought about.

The light was employed by means of the author's specially constructed lamp, in which the sun's rays are concentrated by a series of lenses, and then cooled by running water. With this lamp the author is able to apply the rays to a comparatively small area. It was found that the action of the rays is increased when pressure is made on the part to be exposed.

The value of the cold rays lies in the fact that they do not cauterize, produce no reaction, no scars, and bring about the desired results in a comparatively short time.

The Prognosis of Chronic Otorrhea.—RIEK (*Maryland Medical Journal*, April, 1903).—The object of the author's paper is to point out the fact that, with

proper care and thorough treatment, the cure of chronic suppurative otitis media is nothing like so hopeless a matter as regarded by many physicians. He states that by thorough cleansing of the auditory canal and tympanic cavity, through the use of antiseptic irrigations, or by the so-called dry method, employed frequently enough to keep the tympanum clean, a cure will result in more than 50 per cent of all the cases. With the aid of stronger antiseptic solutions and caustics this percentage of cures can be materially increased.

Less than half of the cases require surgical treatment either of minor or major degree. Among the former are removal of polyps and granulation tissue from the tympanum to facilitate the beneficial effects of the medicinal remedies. When a case resists the above measures the diseased process has reached some inaccessible part of the ear, hence calls for major surgical treatment. Fifty per cent of these cases can be cured by removing the ossicles with the remains of the drum. When this fails the so-called radical operation will have to be performed, which gives from 80 to 90 per cent of cures.

The author believes that as the technique of the radical operation becomes more perfect the remaining 2 to 5 per cent of uncured cases will be materially decreased.

A New Method of Treating Suppurating Catarrh of the Middle Ear.—GRAY (*Lancet*, April 18, 1903).—The remarkable penetrating power of aniline oil has been known for some time. Recently the author has been experimenting with a saturated solution of iodoform in aniline oil, in the treatment of chronic suppurative otitis media, and reports excellent results. There are certain limitations to its application, as aniline is toxic. Gray has discovered that anything under four minims may be absorbed without producing any symptoms of poisoning in an adult, and that if more than this amount is used cyanosis may occur. Fortunately more than four or five minims are never required in ear work. Another objection is the peculiar effect upon the skin produced in some patients, an erythematous blush appearing, accompanied with slight swelling and itchiness.

The writer's conclusions are: (1) The solution should be measured before use; (2) the ear should be cleansed and dried with the same care as is required in the present methods of treatment; (3) granulations should be removed, though this is not so imperative as it is in other methods of treatment; (4) the applications should be made by the surgeon himself; (5) the use of the solution is particularly indicated in those cases which do not do well when treated in the usual ways—that is, in foul-smelling and presumably tuberculous cases.

The Relation of Ozena to Tuberculosis of the Lungs.—ALEXANDER (*Archiv fuer Laryngologie und Rhinologie*, Band 14, Heft 1).—In order to determine the relation of ozena to tuberculosis of the lungs, the author examined two hundred phthisical patients. Among that number he found only one typical case of ozena, fifteen with a marked degree of atrophy of the nasal mucous membrane and six which he regarded as "clinically cured" cases of ozena. Physical examinations of fifty cases of ozena were also made, with the result that twenty-two showed unmistakable evidences of pulmonary tuberculosis, while seven were regarded as suspicious. In none was the diagnosis made on the microscopic examination of the sputum, as the acid-proof bacilli described by Mueller were found in seven cases out of ten in which bacteriological examinations of the sputum were made.

From these findings the author concludes that ozena undoubtedly predisposes to tuberculosis of the lungs, and for that reason it should not be regarded as a benign affection.

The Importance of Nasal Respiration in Diseased Conditions of the Pharynx and Larynx.—TRAUTMANN (*Muenchner Medicinische Wochenschrift*, No. 13, 1903) reports a case in which the operative restoration of the nasal respiration was followed by a spontaneous cure of an inflammatory condition of the larynx and pharynx, which had resisted all other treatment during a period of three years. The author believes that many cases of chronic laryngitis and pharyngitis that have resisted all treatment can be treated successfully if proper attention be directed to the nose. He also warns against the destruction of the mucous membrane of the nose, and points out that while the free nasal respiration may be established the natural protective properties may be destroyed and the nose rendered as defenseless as the passages below.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

The Influence of Sea-Air and Bathing on Certain Ocular Affections.—R. JOECS (*La Clin. Ophthalm.*, April 25, 1903).—As is well known, a sojourn at the sea-side is usually of immense benefit to strumous children suffering from kerato-conjunctivitis. According to Joeqs, other affections favorably influenced are interstitial keratitis due to various dyscrasias other than syphilis, inflammation of the uveal tract and insidious plastic iritis and serous iritis. The latter, when occurring in women, is often connected with irregularities of menstruation or may arise from toxines originating from utero-ovarian disease. In such cases especially are good results to be expected from a short stay at the sea-shore.

Fatal Hemorrhage from the Conjunctiva in the Newborn, with Report of a Case.—M. WIENER (*St. Louis Med. Review*, April 25, 1903).—In a careful search of the literature the writer has been able to find but two cases (besides his own) of "spontaneous fatal hemorrhage from the conjunctiva, with death due directly to the hemorrhage."

The writer's case was that of an apparently healthy baby delivered of a mother with labial chancroids and a purulent discharge containing gonococci. Immediately after birth two drops of a two per cent. solution of silver nitrate were dropped into each eye. One hour later blood began to ooze from the eyes, the hemorrhage coming from the surface of the conjunctiva which was moderately hyperemic. The hemorrhage proved refractory to treatment and with temporary remissions continued until the baby's death at the age of six days.

Ocular Complications in Scarlatina.—STRZEMINSKI (*Rec. d' Ophthalmol.*, March, 1903).—Ocular complications in scarlatina develop in the later stages of the disease or after recovery, and are rare. In an epidemic occurring in Wilna in 1902-03, Strzeminski observed two cases of corneal ulcer, three of phlyctenular kerato-conjunctivitis, one of paralysis of accommodation and of the sphincter pupillae and one of diphtheritic membrane of the conjunctiva. Other complications noted by various authors include orbital phlegmon, abscess of the lachrymal gland and sack, embolism of the central artery of the retina, inflammation and atrophy of the optic nerve following scarlatinal meningitis, paralysis of both facial nerves and ulcers of both corneae, accompanying a bilateral scarlatinal otitis.

The Treatment of Trachoma by X-rays.—(*Trans. Oph. Soc. of the United Kingdom*, March 13, 1903; *reported in Ophth. Review*, May, 1903).—Mr. Stephen Mayou exhibited a patient with trachoma of five years' standing, who had been under varied treatment. Both lids presented large flat granules and cicatrices. There was pannus of both corneæ. After fourteen exposures, each of five minutes' duration, the granules disappeared and the pannus had begun to clear. Rapid improvement, painlessness and freedom from complication are advantages claimed for this treatment. The current should be of high frequency and should be applied directly to the conjunctiva.

Spasmodic Retraction of the Upper Lids.—CHEVALLEREAU and CHAILLOUS (*Ann. d'oculist.*, April, 1903).—This paper is based on two cases observed by the authors.

CASE 1.—Female, aged forty-two, presented herself with both upper lids strongly retracted, so that a strip of sclera was visible above each upper limbus corneæ when the eyes were in the primary position. The palpebral skin was rolled forward so as to form a transverse cushion partly hiding the lashes. On looking down the upper lids remained motionless, so that a large scleral area came into view above each cornea. There was no abnormality of skin or mucosa.

Ocular movements were normal. In attempted closure of the lids the orbicularis contracted slowly and with difficulty, the lid margins approaching each other little by little. Complete closure was practically unattainable.

In sleep and chloroform narcosis the conditions described were unchanged. The trouble began six months previously accompanied by loss of flesh, general muscular weakness and dyspnea on exertion. The sign of Stelwag—increased size of the palpebral fissure and inability completely to close the eyes—was present, and the writer suggests that retraction of the lids may have been the initial symptom in an anomalous case of Basedow's disease.

CASE 2.—Male, aged forty-six, had a retraction of the left upper lid which had existed from birth. With the eye in the primary position the orbital portion of the lid overhangs the bulbar portion which is drawn backward and upward so as to expose a strip of sclera 2 mm. to 3 mm. wide between the upper margin of the cornea and the lid margin. On looking down the lid unfolds, but does not follow the downward excursion of the globe (symptom of v. Graefe). There is also an incomplete closure of the lids on the left side.

Two Cases of Indirect Gunshot Injury of the Eye.—M. T. YARR (*Ophthalm. Review*, November, 1902).—The first case was shot in the face, the bullet entering half an inch below the external palpebral angle of the left eye and emerging below and half an inch in front of the external palpebral angle of the right eye. The orbit was not penetrated. Ophthalmoscopically, the right eye was normal; the left eye presented below the disc a white woolly area with radiating processes, one of which passed across the macular region. There were two large and numerous smaller hemorrhages and a good deal of pigment disturbance in the surrounding retina. Vision in the left eye was *nil*.

The second case was struck on the left eyebrow by a Lee-Medford cartridge, which had accidentally fallen into a camp fire and exploded. Examination nine months later showed: R. eye, normal v. 6-6; L. eye, slight ptosis, v. 6-36; field contracted above. Ophthalmoscopically, slight pigment disturbance at the macula and several small, ill-defined choroidal patches near the disc.

The writer believes that "concussions or vibrations are transmitted through the tissues to the eyeball, where, sparing the sclerotic, they produce gross changes in the more delicate choroid and retina."

BOOK REVIEWS.

TUBERCULOSIS. By NORMAN BRIDGE, A. M., M. D. 12 mo, pp. 302, illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

The substance of the lectures on Medical Tuberculosis, delivered by the author in Rush Medical College during the past three years, is embodied in this book, which has both the merits and the faults inherent in its mode of preparation. As regards the former, its style is pleasant and easily readable, smelling not at all of the lamp. On the other hand, the treatment of the subject is far from complete, and especially in its pathologic and bacteriologic portion the book is marked by many statements which, to say the least, still await verification. Thus, on page 11, the writer having quoted the view held by some that the shorter and thicker tubercle bacilli, which stain better than the longer, slenderer ones, seem to be the product of the severer cases, adds: "If this be true, it would argue that these [the former] forms are fewer generations removed from their origin in bovine bacilli."

The most valuable portion of the book is to be found in the chapters dealing with the practical treatment and management of those afflicted by tuberculosis, and with the protection of the community from the spread of this disease. Any book contributing to the spread of correct information on these topics deserves a warm welcome.

INTERNATIONAL CLINICS. A QUARTERLY. Edited by A. O. J. KELLY, A. M., M. D. Volume 1. Thirteenth Series. Philadelphia: J. B. Lippincott Co. 1903.

A new volume of the International Clinics is ever welcome, and this volume is not inferior to its predecessors. It opens with a valuable article by Dr. William Osler on aneurism of the descending aorta, in which are embodied some extremely interesting cases. In a discussion of the treatment of chronic urethritis, by Dr. Ernst Finger, the writer warns against ever assuming the permanent absence of gonococci, even after numerous examinations made *lege artis* have failed to reveal their presence. No case of chronic urethritis can with certainty be pronounced cured. Among the articles of particular interest may be mentioned one on primary intestinal tuberculosis, by Dr. Frank Billings, and one on gastric dilatation and its accompanying lesions, by Dr. Max Einhorn. The volume closes with an adequate review of the progress of medicine during the year 1902.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By PROF. DR. CARL VON NOORDEN. Translated under the direction of Boardman Reed, M. D. Part 1. Obesity. New York: E. B. Treat & Co. 1903.

For many years Prof. von Noorden, with his assistants and pupils, has been chiefly occupied in the study of the disorders of metabolism and nutrition. The result of this work has been a large number of articles published in various journals and systems of medicine. These various publications are now being collected to form a connected whole. Three volumes, on obesity, nephritis and colitis, have already appeared in German, and others on the treatment of diabetes, the significance of acetone in diabetes, the technique of reduction cures on forced feeding, are now in course of publication. The importance of von Noorden's work well warrants the translation of these monographs, and the profession is to be congratulated that an American firm has been found willing to undertake this work.

DIE PHYSIKALISCH-DIAETETISCHE THERAPIE IN DER AERZTLICHEN PRAXIS. By BERNHARD PRESCH, M. D. Lieferung vi. Wuerzburg: A. Stuber's Verlag (C. Kabitzsch). 1903. G. E. Stechert, New York, Agent.

This number concludes Dr. Presch's handy little work. It contains in particular a concise but adequate discussion of the physical and dietetic therapy of tuberculosis and typhoid fever, and under the rubric "vitium cordis" of heart disease. An appendix contains a full discussion of the technique of hydrotherapy, massage, gymnastics and the like, of electrotherapy and a briefer account of some dietetic "cures." A good index closes the volume.

THE SURGICAL DISEASES OF THE GENITO-URINARY ORGANS. By E. L. KEYES and E. L. KEYES, JR. A Revision of Van Buren and Keyes' Text-Book, with 174 illustrations in the text and ten plates, eight of which are colored. New York and London: D. Appleton & Co. 1903.

To one who is familiar with the old Van Buren and Keyes, and later the Keyes' work on genito-urinary diseases, the present revision is extremely pleasing. The gradual evolution of this book gives a graphical picture of the advance of genito-urinary surgery. The volume deals with the surgical diseases and rather puts in the background venereal diseases. Indeed, the wonderful strides that have recently been made in the surgical part of this specialty has created the need of just such a book.

The clear and concise text of the older works have been preserved, and yet eight hundred and twenty-seven pages are required to give the necessary descriptions.

Syphilis has been entirely eliminated. A better book on the subject cannot be found.

A TEXT-BOOK OF LEGAL MEDICINE AND TOXICOLOGY. Edited by FRED PETERSON and WALTER S. HAINES. Vol. I. Philadelphia: W. B. Saunders & Co. 1903.

The volume brings in separate chapters, written by different well-known authors, a wealth of material on all sides of the legal relations of medicine. The single portions of the work are not all of equal value or thoroughness, and in some very problematic questions rather too apodictic assertions are made. Excellent is the treatise of Hektoen on the medico-legal post-mortem examination, the chapters on signs of death and sudden death by Ewing. Very important are Peterson's stigmata of degeneration, while the article on sexual perversions, by Chaddock, is a standard of that way of dealing with this subject, which only instructs and not nauseates. The book will meet with a warm welcome.

DISEASES OF THE BRONCHI AND PLEURA; PNEUMONIA. By DR. F. A. HOFFMANN, of Leipsic; DR. O. ROSENBACH, of Berlin, and DR. F. AUFRECHT, of Magdeburg. Edited, with additions, by JOHN H. MUSSER, M. D. Octavo volume of 1030 pages. Cloth, \$5.00 net; half morocco, \$6.00 net. W. B. Saunders & Company.

This is the fourth volume of Saunders' American edition of Nothnagel's Practice. To those who are acquainted with the German edition no recommendation is necessary; to those unacquainted with the original, the names of the authors of the three monographs comprising the edition are sufficient recommendation. Additions have been made to the volume by the American editors which render the work all the more valuable. These additions include new work on the anat-

omy and physiology of the bronchi, foreign bodies, the pathology and bacteriology of bronchitis, fibrinous bronchitis, bronchiectasis, eosinophilia in asthma, etc., the blood and urine in pneumonia. The writer of the chapters on inflammations of the lungs upholds the view that pneumonia is the expression of a general pneumococcus infection, and that the local pulmonary lesion is not a necessary part of the infectious process, and that the danger from the lesion is not as great as the danger from the toxemia.

SURGICAL ANATOMY: A TREATISE ON HUMAN ANATOMY IN ITS APPLICATION TO THE PRACTICE OF MEDICINE AND SURGERY. By JOHN B. DEEVER, Surgeon-in-Chief to the German Hospital, Philadelphia. In three volumes. Illustrated with 499 plates, nearly drawn for this work from original dissections. Vol. III. Abdomen: Pelvic cavity: Lymphatics of the abdomen and pelvis: Thorax: Lower extremity. Philadelphia: P. Blakiston's Son & Co., 112 Walnut street. 1903.

This splendid volume of 816 pages completes the largest, handsomest and best work in the English language on this subject. It seems almost absurd to go into a review of the work as a whole, since it is already so well known and popular, hence this article will be confined to a discussion of the volume now before us. To show how the conception of the work has grown since its inception, it is but necessary to state that volume III contains 178 magnificent full-page illustrations (wash drawings), whereas it was intended in the beginning that all three volumes together should contain but 200 illustrations. Too much cannot be said of the quality of these plates; not one of them is mediocre in point of interest or poorly done.

The appearance of the book is something quite unusual, it being bound in red half morocco and printed upon the finest heavy paper. In addition to the many plates which depict organs and regions, there are a large number which deal with surgical landmarks, the direction of important vessels and nerves, to say nothing of those which depict the ligations and other operations. The author has not contented himself with illustrating a single organ but once, where there may be a variation in type, as in the kidney pelvis, he shows by several plates just what this variation may consist in.

The surgical as well as medical aspects of the work may be well understood from referring to the chapter on the lungs. After the usual anatomical descriptions there come sub-chapters on the various affections of the organ, among them there being considered hernia, hypostatic congestion, pneumonia, phthisis, infarction, emphysema and asthma.

While the price of the whole work at first may seem high, still it would be difficult for the general practitioner to invest the same amount of money in any other way that would furnish him with so much useful information; while for the surgeon, this addition to our science is indispensable.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By PROFESSOR CARL VON NOORDEN. E. B. Treat & Co., N. Y.

Part I.—On the treatment of acute nephritis and chronic atrophic kidney.
Part II.—Membranous catarrh of the intestines (colica mucosa).

These monographs are two of a series which is being given out from the laboratory of Professor von Noorden. His investigations along the lines here touched upon are too well known to need comment. The subjects are concisely though thoroughly dealt with, summing up in a few pages the excellent work done by the author during the past years.

FINDLEY'S GYNECOLOGICAL DIAGNOSIS. The Diagnosis of Diseases of Women. A Treatise for Students and Practitioners. By PALMER FINDLEY, M. D., Instructor in Obstetrics and Gynecology in Rush Medical College, in affiliation with the University of Chicago. In one octavo volume of 494 pages, richly illustrated with 210 engravings and 45 full-page plates in colors and monochrome. Cloth, \$4.50, net; leather, \$5.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

The English language has hitherto lacked any work paralleling several publications of which German practitioners have had the advantage, that is a book devoted to gynecological diagnosis. In the present work this long-felt need is completely supplied. The volume embodies all the most modern as well as the long established methods of arriving at a diagnosis. The subject is handled in 36 chapters, which are divided into two parts, the one being devoted to the general, the other to the special diagnosis of diseases peculiar to women.

This is a book of exceptional merits, and while we are certain that it will soon be a favorite among American students and practitioners, we do not doubt that it will meet with the same success in the critical eyes of the English gynecologists.

PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D. Volume IV. *Gynecology*. Edited by E. C. Dudley, A. M., M. D., and William Healy, A. B., M. D. March, 1903. Volume V. *Obstetrics*. Edited by Reuben Peterson, A. B., M. D. April, 1903. Price: \$1.25 each.

This series is published primarily for the general practitioner. A set of ten volumes, issued at monthly intervals, covers the entire field of medicine and surgery. The two volumes before us give a short and clear survey of the literature of the past year on gynecological and obstetrical topics. The care with which only the best articles were selected by the respective editors is evident. There is no doubt that these two latest volumes will help to further popularize this already favorably known publication.

OBSTETRICS. A Text-book for the Use of Students and Practitioners. By J. WHITRIDGE WILLIAMS, Professor of Obstetrics, Johns Hopkins University; Obstetrician in Chief to Johns Hopkins Hospital, etc., etc. With 8 colored plates and 630 illustrations in the text. New York and London: D. Appleton & Co. 1903.

This book marks a distinct departure from the heretofore applied mode of teaching obstetrics to the American student. Any one in a superficial way familiar with the great number of text-books on obstetrics now on the market, may shrug his shoulders when confronted with the reviewer's statement, that this new text-book of Williams is supplying a need felt by a great number of obstetricians of this country. Somewhere, we could not state just where, Joseph Price complained that here in America we show so little interest in scientific obstetrics. We have always felt that this complaint was justified and that the want of this interest was due to the fact that almost all of the American text-books treated obstetrics only from the practical point of view, a position well in accord with the general trend of this country. In Williams' book "especial attention has been devoted to the normal and pathological histology of the generative tract." His book is distinguished as being highly scientific and at the same time practical; it will be perused with the same advantage and interest by the student, the general practitioner, the obstetrician and the scientist. It is not only the best written, but certainly the best illustrated text-book on obstetrics in the English language, and the publishers deserve due credit for the splendid make up of this volume.

ATLAS UND GRUNDRISS DER ALLGEMEINEN PATHOLOGISCHEN HISTOLOGIE. By HERMANN DUERCK: Lehmann's Handadlanten-Muenchen. 1902.

Like in the other volumes of this collection, nothing but praise can be found for the beautiful and correct rendition of well-selected pathologic specimens. The necessity for the wealth of these pictures is not apparent, but they are all and every one of them artistically perfect and true. And as such they may be received with thanks. The text is short and concise; in several places (hemorrhage, for instance) it does not altogether do justice to the subject, but as a whole it gives a correct and up-to-date review of general pathologic histology.

HYPERCHLORHYDRIA: A SYMPOSIUM. The June issue of the "International Medical Magazine" will be devoted to a symposium on this most important gastric subject, than which none more important has ever been published in an American journal. More than half a dozen of the leading European specialists will contribute, among whom are: Prof. C. A. Ewald, of Berlin; Prof. George Hayem, of Paris; Prof. Carl von Noorden, of Frankford; Dr. L. Kuttner, of Berlin; Prof. Rosenheim, of Berlin.

The selection of contributors from this side of the Atlantic has been equally happy, and the following will take part: Prof. John C. Hemmeter, of Philadelphia, on "An Experimental and Clinical Study of the Etiology of Hyperchlorhydria;" Dr. Allen A. Jones, of Buffalo, on "The Effervescence Test of Gastric Acidity;" Dr. Boardman Reed, of Philadelphia, on "A Further Development of the Benedict Effervescent Test of Gastric Acidity;" Dr. John A. Lichty, of Pittsburg, on "The Relation Between Hyperchlorhydria and Neurasthenia;" Prof. Fenton B. Turek, of Chicago, on "The Treatment of Hyperchlorhydria;" Dr. A. Robin, of Newark, Delaware, on "The Etiology of Hyperchlorhydria;" Dr. Max Einhorn and others.

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ORIGINAL ARTICLES.

A CONTRIBUTION TO THE THERAPY OF ENURESIS.*

BY JOHN ZAHORSKY, M. D., of St. Louis, Missouri.

Enuresis is considered a very simple disorder, and, it is true, that in the vast majority of cases spontaneous cure is to be expected; but the practitioner will have all kinds of humiliating experiences in the management of these patients. What is a common experience under the ordinary text-book treatment?

The child improves temporarily, again relapses, the dose is increased, and again it loses its effect. After a few weeks the parents grow discouraged and send for another physician.

In another case little or no effect is produced by the ordinary remedies. In the third case atropine poisoning becomes manifest; the parents, frightened, refuse to continue the use of the remedy.

In a small series of cases the treatment is effectual, but the larger number are not cured, even when the atropine is continued for months. After a few years, fortunately, most cases recover; exceptionally the weakness persists to manhood.

The pathological physiology of functional incontinence of urine or enuresis is still somewhat obscure. In individual cases it is often difficult to determine what part of the urinary apparatus is at fault. And even today there is quite a controversy on the exact pathology of the disorder in general. Henoeh (1881) admitted that we know very little concerning nocturnal enuresis, and is in doubt whether it is a diseased condition or the result of habit. He believes that the immediate cause is either atony of the sphincter vesicæ, or a spasm of the detrusor urinæ. The former is associated with diurnal incontinence also. In most cases he assumes a hyperesthesia of the neck of the bladder. Still, he admits that psychical impressions have a marked influence in the cure of the disease.

This seems about the general opinion today, since most text-books lay stress on the irritable mucous membrane, spasm of the bladder and peripheral irritation.

The treatment has in the main been entirely empirical, as based on the foregoing. Consequently, an enormous number of therapeutic agents have been more or less successfully employed.

It is my intention in this paper to review briefly the therapeutics of the past and give a treatment which has been fairly successful in my hands.

In the first place I will entirely ignore treatment made to restore local abnormalities, and also tonic treatment to increase the general nutrition. These measures are, of course, always indicated when local or general signs of disease

* Read by title before the Missouri State Medical Association.

are present. Then, too, I take for granted that indigestion and urinary hyper-acidity have been corrected by appropriate dietary directions.

The older writers (West, Dewees, Eberle) recommended limitation of floods, preventing the child from lying on his back, tonics, cold sponging of the back and limbs, and in severe cases the tincture of cantharides was administered. This drug is not now used to any extent, but the other measures are recognized of great service.

It is curious how the older writers depended on this drug, the actual action of which depends on the irritating qualities of the urine which it induces. While great stress was laid on the elimination of the irritating qualities of uric acid from the urine, the administration of cantharides was conceded to be very effective. The drug stood in the same relation to the therapeutics of enuresis as belladonna stands today.

Some contradictory phases of the therapy appear.

Thus Charles Bell early in the nineteenth century made the statement that lying on the back predisposed to involuntary micturition, and various devices were employed to keep the child from assuming the dorsal recumbent position. Now, this procedure is disregarded. Yet a recent writer (Hovenden, *Brit. Med. Jour.*, March 22, 1902) again urges that the patient should be kept from lying on the back.

The various remedies used in the past may be classified as follows:

1. Measures to inhibit the contractions of the bladder.
2. Remedies to lessen the irritability of the neck of the bladder.
3. Remedies to diminish the acidity of the urine.
4. Means to lessen the quantity of the urine.
5. Measures to increase the tonicity of the neck of the bladder and the nervous system.

Bretónneau, according to Trousseau, made use of belladonna in the cure of enuresis, but the latter author first popularized it. Even today it is the most useful drug employed. Its effect is to inhibit the contractile power of the bladder, although it is said also to diminish the irritability of the bladder. The mode of administration varies, but it is recognized that large doses are necessary. While these large doses are effective, the cure is not permanent. Relapses are the rule. Holt recommends that the drug should be given for many months, but it is difficult to persuade parents to give it for many months when they can see no special benefit after a few weeks.

It is probable that *rhus aromatic* and *rhus glabra* also have some effect in diminishing the irritability and contractility of the bladder. *Hyoscyamus* acts similarly, but less powerfully.

Remedies to inhibit the irritability of the neck of the bladder are numerous. Martin (*L. Union Medicale*, 1892) advocated the use of antipyrène. It has become a favorite remedy. Others have found the hypnotics beneficial—*e. g.*, chloral, sulphonal, etc. Opium and its alkaloids have been used for this purpose.

The administration of alkalies and their citrates and acetates to diminish the acidity of the urine is a common practice. They also act as diuretics and in this way diminish the quantity of urine at night.

Means to lessen the quantity of urine has not received sufficient attention. The older writers particularly urged that the ingestion of fluids be diminished, but Holt warns that this means renders the urine more concentrated and, there-

fore, more irritating. We know of no drug which inhibits the secretory power of the kidney, although both ergot and belladonna have been used for this purpose. The former drug certainly diminishes the flow in diabetes insipidis, and its therapeutic value in enuresis may depend on this action. *Rhus aromatic* and *rhus glabra* probably also diminish the secretion.

I have found that the secretion at night may be somewhat lessened by stimulating the kidneys in day time; and I often prescribe some diuretic during the morning and noon time, followed by belladonna or other drug at night.

Measures to increase the tonicity of the neck of the bladder are commonly employed. Ergot and strychnine are the usual remedies for this purpose, although they must at the same time augment the contractility of the bladder.

Local measures are the passage of a sound, which probably causes a swelling of the mucous membrane; application of electricity; and the injection of some irritant in the prostatic urethra.

Herbsmann gave us a very effective means, namely, the massage of the neck of the bladder through the rectum. Caillag had good results with this procedure, but I have found that it is rather a difficult treatment to introduce into a family. The child does not take kindly to it, and the parents object.

Discussion of the means to tone up the nervous system brings out the fact that there has always been a tendency to regard enuresis an affection which depends on an abnormality of the central nervous system. Inasmuch as the sphincter vesicæ and the levator ani are under the control of the will, a strengthening of the cerebral inhibitory function is really the most effective treatment. Budge and Masso have shown that a contraction of the detrusor urinæ can be evoked by stimulation of the *crura cerebri*, medulla or anterior column. Even the earlier writers bring this out, and there can be no doubt that mental stimulation by shaming or chastising the patient often results in cure. Probably it is true, as Holt urges, that rewards are really more effective, and certainly they are to be recommended rather than the whip.

The stimulation to the nervous system is illustrated by a variety of treatments. Even Dewees (1835) used a blister to the sacrum with benefit.

The influence of cerebral function was clinically confirmed by Harkin (*Provincial Med. Jour.*, 1887), who believed that a congestion of the medulla was the origin of the trouble. He blistered the nape of the neck with the liniment of cantharides and obtained the most remarkable results. It has often been pointed out that a change of residence, surroundings, companions, or occupation results in a speedy cure.

The lessened inhibition of the cerebrum is also shown by the symptom of Freud (*Brit. Med. Jour.*, p. 93, December 9, 1893; *Neural. Centralbl.*, December 21, 1893) to which little attention has been given and which I have corroborated in a few cases. This symptom is a hypertonic condition of the *crural adductors*.

"To elicit the symptoms the child is seated with its legs on a table, its feet are then grasped and an endeavor is made to separate them as wide as possible in a longitudinal direction. In a typical case the adductor spasm at first is considerable, but soon yields; on releasing the feet the legs spring back into contact." Spasticity also is found in the quadriceps extensor on attempting to flex the knee. The resistance here is very pronounced at first, but quickly subsides. If flexion be thus repeated, only slight extensor tension is observed. This symptom is rare in normal children. He suggests that excessive spinal innervation

of the detrusor and of the crural muscles may be a factor in the combination of symptoms. This probably again depends on insufficient cerebral inhibition as in spastic paraplegia.

Among recent writers, Thiemich has very forcibly emphasized the cerebral origin of enuresis (*Berl. Klin. Woch.*, 5 August, 1901). He argues that we cannot regard enuresis as a weakness of the cut-off muscle. He tries to prove that enuresis is only a symptom of a general nervous disorder; in other words, he regards it as a manifestation of hysteria. The proof he gives is that there is usually a neuropathic ancestry; that other hysterical symptoms are common; that epidemics occur in asylums and hospitals; that isolation of patient usually cures; that electricity cures no matter where applied; that the hypodermatic injection of strychnine has a curative effect, but the same result may be induced by a hypodermatic injection of salt solution; that the operation for adenoids, which often cures, acts by suggestion; and unsuccessful therapeutic attempts make the chances of future cure less. He finds the surest cure is the isolation of the patient.

The treatment advocated by Pendergast (*N. Y. Med. Jour.*, July 11, 1896) acts as a stimulant to the nervous system, and may be said to be a very powerful remedy for any hysterical tendencies.

The method employed in a boys' orphan asylum was as follows: The boy was stripped and placed standing in an empty bath tub. A basin, or a vessel with a spout to it like a watering can, was filled with cold water and poured over the shoulders and down the back of the subject. In nervous, delicate children, one dash of water was sufficient for an application; in the sluggish, phlegmatic lads, the dose might be repeated. The boy was immediately rubbed down, dressed in night clothes, and put to bed. Sponging the back with cold water does not have the same value as douching.

A few words more in regard to the connection between adenoids and enuresis. Grodich (*Arch. f. Kinderheilk.*, Bd. xx, Heft 3 and 4) thought he had discovered a connection between adenoids and enuresis. In a number of cases in which the adenoids were removed, the incontinence stopped. In four cases adenoids reappeared and with them the enuresis. Huber in this country has also written on this subject, and he even suggested some relation between the diminished intake of oxygen in patients suffering from adenoids and the blood supply of the cerebrum and spinal column.

In short, it may be said that the theory of cerebral involvement in enuresis is in the ascendent, and therapy directed to increase the inhibition of the cerebrum is the most rational. The practice of awakening the child at night to empty the bladder does not effect a cure. The child's will must be stimulated to retain it.

In conclusion, I will give the treatment which I have lately followed with considerable success:

1. Two doses of a diuretic during the day: One at 9 A. M. and the other at 2 P. M. Usually I prescribe the alkaline citrates with spirit of nitrous ether, but I have also used caffein and diuretin, and sodium benzoate.

2. Give one dose of atropine at night. Instead of atropine I have used rhus aromatic, also antipyrène.

3. I use Pendergast's method of douching the back.

It is too early yet to speak of the proportion of cases cured and the time which elapses before cure. This I reserve for a future communication.

1460 South Grand avenue.

SOME EXPERIENCES WITH LOCAL AND GENERAL ANESTHETICS.

By T. C. WITHERSPOON, M. D., of St. Louis, Missouri.

It is not my intention to present a thesis upon anesthetics in particular or in general, but to detail some of the work I have been doing under the various anesthetics, with the results. This subject of anesthetics is of interest to the surgeon and the doctor of internal medicine alike. Both are confronted with the question whenever an operation is advised, "What means shall be used to render it painless?" Every suggestion, the result of experience, helps to give better definition to the limits of the various anesthetics, and it is in this spirit I present this paper.

In the choice of anesthetics I have made rapid strides toward discarding general anesthesia wherever the local can be used satisfactorily, operating fully ten times oftener under local today than I did five years ago in the same relative number and class of conditions. Capacity to use local anesthesia as a means of painless operating increases with practice, and I am better prepared to work with the aid of the hypodermic syringe now than I was five years ago. Each operator's experience must to a certain extent be a law unto him, and a method for one is not a method for all. Careful attention to the details of the different procedures will alone enable one to accomplish satisfactory results.

There are offered upon the market today a number of local anesthetics, but I have confined myself to the use of two—eucaine and cocaine. These have proven most satisfactory and therefore I have had no occasion to experiment with others. Of the two the majority of my work has been done with eucaine. It possesses certain advantages over cocaine which makes it applicable more generally. Chief among these is the fact that it can be sterilized by boiling without appreciable deterioration. This makes it most satisfactory in areas where foreign materials, silk, silver, etc., have to be left in tissues. Cocaine being less easily sterilized is more apt to infect such materials and mar surgical results. Eucaine is not toxic within reasonable limits and therefore safer. In my own experience there was one questionable incident in which eucaine may be said to have exerted a toxic influence. The patient had a Laenec's cirrhosis combined with gall-stones. Upon the basis of this an infectious biliary catarrh commenced. I opened the gall-bladder to establish drain and then performed an omentopexy. Before finishing the operation the patient became restless and somewhat flighty, his pulse weakened and respiration became difficult and rather shallow. Whiskey was given and nitroglycerine. The symptoms passed away in a short while after removal to bed and were most probably due to the shock caused by the necessary manipulation of the abdominal viscera.

In preparing the solution of eucaine for this work I boil a one-tenth per cent. solution in water for five minutes and add boiling water to this from time to time to make up the loss through evaporation. Allowing it to cool in the dish, it is aspirated into a syringe for use. This avoids the possibility of contamination by transferring to another receptacle. A ground glass syringe is preferable in order that the requirements of asepsis be carried out in an ideal manner. To accomplish sterilization I place the syringe in ninety-five per cent. carbolic acid for three minutes, then transfer it to alcohol, when it is ready for use. This avoids possible breakage from boiling and is more rapid.

It is not uncommon to hear complaint made of two possible sequences of the local injections, namely, sloughing and pain afterward. As to the first I cannot say I have ever seen a slough follow the use of a local anesthetic where it has been used properly. An infected needle, or improperly prepared solution, and at times a disregard of surgical precautions, is where such trouble arises from. As for pain, my patients used to complain far more than they do at present. I attribute this to the fact that I never use a stronger solution hypodermically than one-eighth per cent. of the drug. Stronger are very apt to be followed by an annoying, burning pain for several hours. In circumcision this is commonly complained of and some prefer general anesthesia on that account. I have at no time used morphine, resorcin or other admixture in the solutions for local anesthesia.

In opening an abscess I have frequently resorted to an infiltration with pure boiled water, and when this was not at hand used air only. With a little care air will produce a very considerable degree of temporary anesthesia.

In using dilute solutions it is interesting to note how little of the drug suffices to annihilate pain. In the last six months I have operated upon four incarcerated inguinal hernia in men and one strangulate hernia in a woman. The incarcerated hernia contained in three omentum, and in one omentum and bowel. I experienced no difficulty in liberating them without great pain, and in two of these I removed a large lipomatous omental mass. In each case less than one-half grain of eucaine was used. The strangulated hernia occurred in an old woman of eighty-two. It had been out for six hours when I saw her and could not be reduced by gentle manipulation. The bowel was enveloped in a piece of omentum, and black. In a few minutes after liberating the constriction at the neck it showed return of circulation and was returned to the abdomen. In this operation one-sixteenth of a grain sufficed. She complained of no pain and scarcely realized the severity of the procedure. In all these cases a radical closure was obtained. In operating upon simple hernia I found the procedure quite easy. Femoral hernias are as easily dealt with as inguinal. I have operated twice under eucaine anesthesia for umbilical hernia in women with perfect results. In one the opening was as large as a quarter and in the other half that size.

I have been particularly impressed with the benefit accruing from the operation of partial thyroidectomy under local anesthesia. In exophthalmic goitre, where this operation is indicated, the nervous system and the marked loss of vascular tone make general anesthesia the chief danger of operation. Under the local this danger is reduced to a minimum. In this manner I have removed the half of the gland in six cases during the last year with most gratifying results. One-half grain of eucaine sufficed in each case to perform the entire operation. In two of these cases, after the operation there occurred a mild tetanic convulsion and a momentary loss of consciousness. There was no evident vascular embarrassment at the time; the pulse was closely watched. This happening has been reported by others and is unquestionably due to expressed thyroid contents into the circulation by the manipulation of the gland. All the cases healed per primum.

With local anesthesia I have operated upon cases suffering from empyema with gratifying ease. The operation can be done upon fairly young children without complaint. I wish to report two cases out of the ordinary which were

relieved by operation under eucaïne. The posterior tibials were involved. Neither patient could bear weight upon the foot or allow dorsal flexion. One resulted from riding with the weight upon a hyperextended foot and the other was due to a direct trauma. In both cases the diagnosis of tuberculosis was made by attending physicians. The nerve was exposed for six or seven inches in its course behind the internal malleolus and the foot put up in hyperdorsal flexion after freeing the nerve. Both cases were shortly able to walk after removing the casts. These were left on three weeks. This experience in handling these two cases suggests the possibility of handling the acutely painful foot following injury by a deep injection of a local anesthetic into the territory of the posterior tibial nerve.

An exceedingly difficult condition to handle at times is one where there is great irritability about the anus and lower rectum. In these conditions I have been rendered the greatest service by injections into the triangular open space at the lower end of the sacrum posteriorly. By this means I have operated upon several fissures and fistulas of the rectum.

I have tracheotomized the adult three times for the purpose of giving a general anesthetic afterward. Of the three, one with a cerebral lesion was the most interesting and deserves reporting. In this case three attempts were made to administer a general anesthetic with failure. At the time of excitement a general spasm would occur involving the muscles of the glottis and causing a pronounced cyanosis. After tracheotomy the anesthetic was given with a like general spasm, but the tube prevented cyanosis becoming greater than the more or less rigid chest wall would account for. During the entire surgical procedure there was not a moment when the rigidity let up. The lesion of the brain proved to be a degenerative one due to vascular disease.

In using an anesthetic upon a mucous membrane or open surface I rely wholly upon cocaine. I have never had any alarming toxic symptoms when used with care. The most annoying symptom is a slight nausea which quickly passes. I realize, however, its possibilities in the direction of producing marked poisoning and always use it cautiously. Let me call attention here to a method of using cocaine to anesthetize the urethra. After cleaning the area about the gland, place one-half grain cocaine in the form of a soluble tablet into the meatus. Dampen this with a drop of sterile water which makes a paste of it, then carry a bougie through this paste into the bladder. Let the bougie remain in the canal about three minutes. This will smear the cocaine paste along the canal and render instrumentation painless.

I am inclined to give chloroform whenever a general anesthetic is used, unless contraindicated. In the last two years I have been unfortunate enough to lose two patients from fatty degeneration following its use. In both cases the quantity used was small and the operation lasted, all told, less than an hour. The symptoms came in one after thirty-six hours and in the other commenced on the fourth day.

There is some choice in the character of mask used in the administration of chloroform; and I want to relate an occurrence which impressed this upon my mind lately. I removed an appendix from a young man during an interval between attacks. There was some little difficulty experienced. The amount of anesthetic used, according to the anesthetizer, was 90 cc. After the operation he was unusually somnolent and became conscious only after two hours and

twenty-five minutes. He awakened with marked nausea and vomited the entire afternoon. I noticed that evening when calling a reddish streak running down from the corners of the mouth, and thinking the nurse had not carefully cleansed the area after vomiting, cautioned her to be more careful. The next day I discovered the streak was a burn. A careful search into the conditions surrounding the case convinced me the burn was due to chloroform swallowed during the anesthesia, and the way it occurred was as follows: The mask used was a Schimmelbush pattern. The lower rim of these is made like a small gutter. Into this fits the wire rim which holds the gauze upon the mask. Any chloroform finding its way into this gutter would be prevented from evaporating by the lack of exposure to circulating air. In this particular mask a portion of its lower rim had been turned downward for the purpose of allowing the easy removal of the gauze. This gave it the appearance of a spout to a gutter. Any chloroform finding its way into the gutter would naturally gravitate toward this point and easily find its way to the mouth. The burn only cleared away after two weeks and for a month he was unable to hold food upon the stomach, but was fed rectally. There was at no time any abdominal disturbance due to the removal of the appendix.

I have tried faithfully to give children ether by the drop method, on an Esmarch mask, but I am not yet ready to yield chloroform for it.

THE BLOOD IN DISEASES OF THE DIGESTIVE TRACT.

BY ALBERT E. TAUSSIG, M. D., of St. Louis, Missouri.

The discussion of the blood changes found in diseases of the digestive tract may be either voluminous or very brief; the former because there is in this subject so much that is uncertain and disputed, the latter because there is so little of real diagnostic importance. The briefness of the time allowed me does not permit of a detailed discussion of the subject; that would require an hour or more. I can only take up one by one the most important diseases of the digestive tract and state concisely the blood changes there found.

Esophageal affections are not accompanied by significant blood changes excepting those produced by starvation. Even in cancer of the esophagus the resulting leukocytosis is usually counterbalanced by the diminution of leukocytes produced by starvation, so that we find here merely an anemia.

In gastric disorders it is chiefly cancer that produces a blood change of diagnostic significance. In many cases the blood shows no changes whatever. Where the disease is somewhat advanced, however, we always find a greater or less degree of anemia. This may be very severe. There may be present distorted red cells (poikilocytes), very small red cells (microcytes) and nucleated red cells (normoblasts); only very rarely, however, those excessively large nucleated or non-nucleated red cells characteristic of pernicious anemia. According to Henry the number of red cells in cancer never falls below one million per cubic millimeter, whereas in pernicious anemia we may have considerably less; but even to this rule there are exceptions.

Early in the disease before tumor is probable, leukocytosis is usually not found; in none of the cases which I have had occasion to examine was there a

leukocytosis present early in the disease. Later, when cachexia, tumor and the characteristic stomach contents rendered a blood examination superfluous, a leukocytosis is usually present, but even here it may be missed. Hemorrhage or perforation to be sure, always produce a very marked leukocytosis, but this is equally the case if these complications follow gastric ulcer, typhoid fever or other abdominal affections. Of somewhat greater significance is the absence of a digestive leukocytosis. Normally we find, two or three hours after a full meal, a decided increase in leukocytes. In most cases of gastric cancer, even early in the disease, this increase is absent or very small; sometimes, however, it persists until later in the disease. Moreover, in chronic gastritis and especially when accompanied by dilation, this digestive leukocytosis may be delayed or even absent. Nevertheless the absence of a digestive leukocytosis is so much more common in cancer than in gastritis, that its occurrence while not pathognomonic may well be considered a factor of considerable diagnostic significance when taken in connection with other signs and symptoms.

In gastric or duodenal ulcer an anemia is usually, though by no means invariably present. When there is considerable hemorrhage we always find a marked leukocytosis; this might easily lead to a confusion with cancer.

Atrophy of the gastric mucous membrane is always accompanied by an anemia. Occasionally this anemia is so profound that the blood shows all the changes of a pernicious anemia; we find an extreme diminution of the number of red cells, occasionally less than a million per cubic millimeter, a diminished amount of hemoglobin, not, however, quite corresponding to the oligocythemia, the presence of many of those large red cells called megalocytes, or even of nucleated megalocytes, the anemia being often far more profound than that occurring in cases of gastric cancer. Digestive leukocytosis, too, is usually absent. The condition thus closely simulates that sign in gastric cancer. In both we have absence of hydrochloric acid, presence of lactic acid, absence of digestive leukocytosis and blood approaching that of pernicious anemia. I have had occasion to observe two cases in which only the autopsy enabled a definite diagnosis to be made. Both were found to be cases of gastric atrophy. A well-marked leukocytosis would speak for the diagnosis of cancer; an excessive anemia with the number of red cells below one million per cubic millimeter would speak for gastric atrophy. Acute gastritis, too, is usually accompanied by a moderate leukocytosis; this may occasionally be of value in differentiating it from typhoid fever, in which an abnormally small number of leukocytes is usually found.

Hepatic disorders are usually not accompanied by significant blood changes, unless there is pus formation, as in cholecystitis, hepatic abscess, and the like, when we find the usually suppurative leukocytosis. In icterus the red cells are often swollen and show degenerative changes, but these are probably never of diagnostic importance.

Intestinal disorders accompanied by diarrhea produce a concentration of the blood; high specific gravity, high percentage of hemoglobin and an apparent increase in the number of leukocytes may occasionally cause an error in diagnosis. I myself have had occasion a number of times to make an interesting observation. Anemic patients with a low percentage of hemoglobin showed a marked rise in the latter after the administration of a brisk purge. This might lead to the conclusion that their condition had been improved, unless a complete blood examination showing a corresponding rise in specific gravity and number

of leukocytes was made. Weiss has made an interesting observation in cholera infantum the explanation of which is not clear. He found marked leukocytosis affecting the lymphocytes. In two cases the blood resembled that of lymphatic leukemia.

Typhoid fever I shall mention only in passing, as the discussion of the blood changes here belongs to that of the infectious diseases. For purposes of diagnosis the important feature in this disease is the absence of leukocytosis. The number of leukocytes is diminished very early in the disease, being below 6,000 in the majority of cases, whereas severe inflammation elsewhere in the digestive tract is usually accompanied by an increase of the leukocytes. Only where we have hemorrhage or a perforation do we have a leukocytosis here, as where these complications follow other lesions of the digestive tract.

The greatest interest in this portion of the subject attaches to the blood changes found in connection with appendicitis. In nearly all the cases we find an anemia of greater or less degree, but this is probably due to the general invalidism produced by the ailment and is not diagnostically significant. It is otherwise with the leukocytosis that is so frequently found. The presence or absence of the latter in appendicitis follow the same rules that govern its occurrence in septicemia or in abscess formation elsewhere. Non-purulent inflammation anywhere in the body is marked either by absence of leukocytosis or at the most by leukocytosis of moderate degree. Pus formation, on the other hand, is always accompanied by a very intense leukocytosis. The only exception to this rule is where the patient is so profoundly poisoned by the sepsis that the body is quite unable to wage any sort of efficient warfare against the intoxication. In such cases we find an entire absence of leukocytosis; occasionally there is even a leukopmeia. Thomas v. Limbeck reports a case of profound sepsis in which the leukocyte count was under three thousand. These rules established by hundreds of blood counts, enable us readily to interpret the blood feature of appendicitis. If in a case in which the presence of pus is doubtful we find the normal number of leukocytes, or at least not more than 15,000 per cubic millimeter, we can safely infer there is no suppuration, and if the clinical signs confirm this conclusion we may be justified in postponing operation. If, on the other hand, we find more than 20,000 leukocytes (the count is often 40,000 or more), there is certainly an abscess forming and an immediate operation is indicated. Finally, if we have it to do with a certainly septic patient whose leukocyte count is normal or subnormal the prognosis is very bad, operation or no operation. Where the number of leukocytes ranges between 15,000 and 20,000 the interpretation of the count is doubtful and we can derive no certain conclusions from the blood examination. An exception is perhaps formed by those cases of chronic appendicitis in which the abscess cavity is very thoroughly walled off. Here no toxins are absorbed from the abscess into the general circulation, and we may have a normal leukocyte count in spite of the presence of pus. In such cases the blood examination may undoubtedly lead us astray.

In the differential diagnosis between suppurative appendicitis and other diseases that often closely simulate it, the leukocyte count is sometimes of assistance, sometimes not. Thus, simple colic, intestinal obstruction without gangrens, fecal impaction, typhoid fever, ovarian or pelvic neuralgia, floating kidney, renal or hepatic colic—all of which have been mistaken for appendicitis—we have no leukocytosis. In such cases a blood count may save us from an unnecessary

operation. On the other hand, general peritonitis, pus tube, cholecystitis, pyelitis and the like, since they imply suppuration somewhere, cause a leukocytosis, and here a blood count does not enable us to differentiate these from appendicitis.

To sum up: In esophageal affections there is usually no characteristic blood change. In gastric cancer the leukocyte count as such does not always give reliable information. The absence of a digestive leukocytosis, however, is significant, and would be more so if chronic gastritis with dilation, and especially gastric atrophy, did not produce a similar picture. The latter affection is often characterized by the interesting changes of pernicious anemia. The other gastric affections produce no distinguishing blood changes. Of the intestinal disorders, it is especially in appendicitis that the leukocyte count is of value. Here suppuration is characterized by a marked leukocytosis, though this may be absent if the abscess is thoroughly encapsulated. On the other hand, both a mild and a desperately severe case of appendicitis fail to produce a leukocytosis.

The examination of the blood then in diseases of the digestive tract, while it never gives us information so precise as to enable us to dispense with clinical observation, is often a valuable aid to diagnosis and should by no means be neglected.

REPORTS UPON RADIOTHERAPY: (1) CURE OF EPITHELIOMA OF THE TONGUE. (2) RESULT IN THE TREATMENT OF AXILLARY HYPERIDROSIS. (3) A CREAM PASTE FOR X-RAY BURNS.

BY MARTIN F. ENGMAN, M. D., of St. Louis, Missouri.

1. *Epithelioma of the Tongue*.—The patient, Mr. X., age fifty, was referred to me last June for diagnosis and treatment. The gentleman who sent the case had previously made the diagnosis of epithelioma, with which I agreed, but to make it more positive and to exclude syphilis, a month of energetic anti-luetic treatment was given without result. The lesion was situated upon the right side of the tongue, three inches back from the tip. It consisted of a flat, oval, slightly raised indurated plaque the size of a dime. The border was very distinct, hard and perceptibly raised above the rest of the lesion. At the center a fissure or crack cut into the substance of the tongue, but did not present any signs of ulceration. This plaque had been gradually increasing in size for some months, was painful when the tongue was freely moved or struck against the teeth. The appearance was typical of that of epithelioma from its superficial situation, the hard indurated feel it imparted to the finger, the pain upon slight trauma and its sharp button-like character. No glandular involvement could be detected.

Upon being told of the nature of the lesion, the patient consulted several excellent authorities in St. Louis and Chicago, all of whom made the same diagnosis, and recommended the excision of a part of the organ, to which he was greatly opposed, even to the excision of a piece for diagnosis. He, therefore, finally returned to my consultant and myself. As the plaque was very accessible to the rays when the tongue was drawn out, we decided to give radiotherapy a trial. The patient in a reclining position upon the left side, drew the tongue out as far as possible and held it. A lead mask covering the face and head was so molded that the part sweeping over the mouth fitted into the opening and at the

same time assisted in holding the tongue in place. Just over the lesion a window slightly larger than the lesion was cut.

A moderately hard tube was used at a distance of from three to six inches. The exposures ranged from five to fifteen minutes, and were given every other day for twelve days, and then daily. At the beginning only five minutes was given, but later ten, and finally fifteen minutes. The first series of exposures given in this way lasted for ten or twelve days, when the mucous membrane became gradually whitened until it looked as if it had been cauterized with a solid stick of silver nitrate. Then the treatment was stopped for a week, when the tissue regained its normal appearance and the lesion was less painful. A second series of daily exposures was then begun at distance and length of time before stated. In seven or eight days a rest was again taken, as the whitening of the mucous membrane indicated it. Ten days after this the appearance of the mucous membrane was again normal and the lesion markedly improved; it was smaller, flatter and the borders less indurated. During the last series I decided to thoroughly burn the plaque and surrounding part with the rays; therefore, the tube at each sitting was gradually brought closer to the mask until within three inches, and the length of time of exposure was gradually increased to fifteen minutes. After ten exposures thus given the surface exposed had a dirty white charred look and the tongue was quite sore. The patient was allowed to go to his summer cottage in the East with the warning that the soreness would probably increase for two weeks or more. At the end of two weeks the site exposed became painful and swollen, so much so that the patient consulted a surgical friend, who advised him to use a simple mouth wash and wait. In a few days after this the cauterized tissue sloughed away, and the wound quickly healed. When I saw the patient a month afterwards, only a very slight scar, almost a line, marked the site of the former lesion. It was smooth and soft as the rest of the tongue. It has been my misfortune to treat several epitheliomata in the cavity of the mouth, but all of them have been in an advanced stage, therefore without success. That more encouraging results have not been obtained by radiotherapy in cancer of the mucous membrane is no doubt largely due to their inaccessible position. The case under discussion was very accessible, and was treated early, before metastases had occurred. A year has now elapsed without any sign of recurrence or metastatic accidents.

2. *Axillary Hyperidrosis*.—Mr. S., age twenty-five, suffered from a severe hyperidrosis of both axillæ. The sweating at times was so profuse that his coat was wet at this site. Season seemed to make little difference. He noticed it was more marked when he was "nervous," as upon the approach of some very important business engagement. Mr. S. was a very neat, æsthetic and elegant fellow, therefore this excessive sweating, with its accompanying odor, was a source of great annoyance. He had tried all the usual remedies, formaline, chromic acid, etc., with only slight and temporary benefit. Upon the fact that the x-rays destroy the higher differentiated elements of the skin, like the hairs and glands, I suggested to Mr. S. the possibility that the rays might benefit him. He gladly and intelligently entered into the experiment. A sheet of lead foil was placed over the arm, chest and side, and a hole large enough to expose the axilla cut in it. A moderately hard tube was used at a distance of ten inches at first three times a week, and then daily for from five to fifteen minutes, gradually increasing the length of exposure. The case was carefully watched,

and as soon as itching or redness was noticed the exposures were stopped and a cooling cream applied until all symptoms subsided. Both axillæ were generally treated the same day. In this way we went cautiously on for some three months or more,* when the hairs fell out. Then a final erythema was produced with the rays, in fact, the part became quite sore, but did not vesiculate or become leathery. After the subsidence of all these symptoms the patient and myself were overjoyed to find that the improvement in the amount of the secretion remained permanent, although there was no apparent scarring. Several months afterward Mr. S. reported an improvement of from 50 to 75 per cent. of his annoying condition.

As a usual remedy for such conditions, the rays are certainly not to be recommended; in fact, unless the patient be an intelligent person and enters into the spirit of the experiment, it is a very risky procedure. I merely report the case as a unique use for the rays, and to illustrate its apparent selective action upon the glandular structure of the skin.

3. *A Serviceable Cream for the Treatment of Acute X-Ray Burns.*—Although I have never yet produced an accidental or severe burn with the rays, yet I have been called upon to treat several of a severe character made by those more unfortunate than myself. All of them have been of the second degree or milder, with one exception, a burn of the back, with small points of deeper ulceration. Therefore, as none of my cases have been deep, infection and ulceration were not factors to combat in their treatment, the indications being to stop the intolerable itching, assist repair and to keep the surface aseptic, for which the following dressing seems to be wonderfully successful:

R	Acidi borici.....	5xii
	Zinci oxidi.....	
	Amyli.....	
	Bismuth subnit.....aa	3i
	Ol. olive.....	3i
	Liq. calcis.....	3iii
	Lanolini.....	3iii
	Aquæ Rosæ.....	5xii
M.		

The powder should be well rubbed up in a mortar and the lanoline added. The olive oil and liq. calcis are well mixed, then this mixture slowly added to the powder and lanoline, constantly stirring. When this is thoroughly mixed the rose water is added and the whole beaten up in the mortar into a light creamy paste. If there is much pruritus, 1 per cent. or 2 per cent. of Calvert's carbolic acid can be added to the whole.

In applying this creamy paste it should be spread on several thicknesses of absorbent gauze and laid over the surface and a sheet of gutta-percha tissue placed over it to prevent evaporation. The cream-paste is very cooling on account of the great per cent. of water it contains, and acts almost as a lotion without the disagreeable effects. I am indebted to Mr. W. R. Grant, the pharmacist, for his assistance in obtaining the proper proportions to make this formula a consistent cream-paste.

* Careful notes as to number of exposures were not made.

A CASE OF SUPPURATIVE PAROTITIS COMPLICATING PNEUMONIA.

BY C. J. MARCH, M. D., of Fordyce, Arkansas.

According to Norris, whose article in the *New York Medical Record* for April 20, 1901, is cited on page 182 of *Progressive Medicine* for March, 1902, only seventeen cases of the above mentioned complication of pneumonia had up to that date been reported. I wish to report another case observed in consultation with my colleague, Dr. W. L. Worthington, of Fordyce. On January 8, 1902, Mrs. R. C. H., aged fifty-seven, housewife, had a severe chill, attended by pain in right side of chest and followed by high temperature, cough, viscid brick-dust sputum and the other usual signs of the onset of a severe attack of croupous lobar pneumonia. The disease ran a rather tardy course, resolution not beginning until about January 21st. On or about January 24th the right parotid gland began to swell and became very painful. The swelling increased steadily in spite of appropriate treatment till February 8th, when fluctuation appearing at the upper end of the gland an incision was made and a small quantity of thick pus evacuated. The suppurative process continuing until the whole gland was converted into a sac of pus, a counter opening was made at the lower end of the gland, allowing free evacuation of the contents of the abscess cavity. The abscess cavity was washed out with hydrogen peroxide and antiseptic dressings applied twice daily for two weeks, then once daily until the purulent discharge ceased, about thirty days after the second incision. The patient had a long and tedious convalescence, but finally made a good recovery.

CORRESPONDENCE.

EDITOR INTERSTATE MEDICAL JOURNAL:

I wish to take exception to the spirit of an editorial on the variola organism which appeared in the June number of your journal. I have followed, with a great deal of care, the successive publications of Councilman and his students, from the first announcement of his work, which appeared in the *Boston Medical and Surgical Journal*, to his most recent communication before the Congress of Physicians and Surgeons at Washington. The writer of the editorial in question has evidently been guilty of at least two errors which should never influence any scientific paper or any scientific criticism. First, he has objected, with a certain assumption of authority, to a piece of work which, as he confesses, he has only read in an incomplete form. Second, he has allowed a prejudice against the results which Councilman has obtained to influence him. To the average reader the papers which have appeared by Councilman and his pupils seem to be permeated with a spirit of modesty and conservatism, which is as rare as it is admirable. Nowhere does Councilman claim more for his work than his results seem to justify. At no point does he dogmatize, and in no place does he prophesy. He expressly says that there are gaps in his work, and he points out just where they are and how they may be expected to be filled. It is the consensus of all editorial opinion which has appeared on the Councilman work, that no great discovery in medicine has been so modestly and so conservatively set forth. The objection to the use of the term "protozoa" by the writer of your editorial is unfounded, for this reason: among those present at the first reading of the paper by Councilman at the Harvard Medical School was Professor Calkins, the biologist of Columbia University, who pronounced Councilman's organism a protozoa. The authority of so well-known a zoologist is a sufficient proof of the correctness of Councilman's classification of the organism. The work of Councilman has the endorsement of Professor Welch, who has come to be looked upon as the Nestor of pathology in this country. Such an endorsement means at least that the work is conscientious, thorough and clean. The criticism as advanced in the editorial denies to the work of Councilman either the spirit of scientific inquiry or the endorsement of men whom we are accustomed to regard as the leaders of scientific medical thought. To a broadly cultured scientific mind there is nothing inherently impossible in any theory advanced experimentally. The truth of any proposition should not be influenced by any preconceived opinion, but should be dependent solely upon the data which are set forth in its support. Such data were not in the possession of the writer of the editorial in question, by his own confession, and in so far there can be no just criticism of Dr. Councilman's work.

This protest is not that of one who has any special knowledge on the subject of Dr. Councilman's work, but it is that of one who is deeply interested in all that speaks for progress in medicine, and if any work of recent years comes under the latter head, it is that of Councilman on the organism of variola. It is to be deeply regretted that some of your readers may learn of Councilman's work for the first time from the unjust editorial of your June issue. To counteract, if possible, any such first impression, even to a slight degree, is the purpose of this letter. *

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EDITORIAL COMMENT.

THE THIRTY-FOURTH ANNUAL REPORT OF THE ST. LOUIS INSANE ASYLUM.

This report emphasizes the difficulties which the superintendent has had to overcome and the use that he has made of the very limited opportunities which have been afforded him. The institution was built in 1870 to accommodate a maximum number of three hundred patients and at present there is a daily average of six hundred and seventy-six patients. The facilities in respect to space have scarcely been increased since the early days of its existence. From this fact it can be seen under what a disadvantage in respect to overcrowding alone Doctor Runge has had to labor. There is one characteristic of this report which can be strongly commended, and that is the absolute spirit of truthfulness with which it has been written. Inasmuch as there are no facilities for scientific laboratory work provided, no attempt is made to do any, or rather no record of such work finds a place in this report. The stand is taken, and well taken, too, that for the proper carrying out of any work of research in neuropathology adequate laboratory equipment must be provided, and a resident neuropathologist must be placed in charge. When it is known that the institution is so overcrowded that there is not space enough for such a purpose, even if the other conditions were fulfilled, then the wisdom of leaving this side of the question untouched is apparent. It is the custom in many insane asylums to include in the annual reports papers purporting to be contributions to neuropathology. The purpose for which this is done is to add a certain air of scientific progress to the publication of the asylum. Too often such work is misleading and useless, and its purpose is too apparent. That there is no laboratory work done in the St. Louis Insane Asylum is to be deplored. This, however, is not the superintendent's fault, but is due to the wholly inadequate resources which are placed

at his disposal. The standpoint which the author of this report takes on the relation of an insane asylum to the other charitable institutions of a large city is worthy of notice. Such modern developments of an awakened civic spirit as play-grounds, public baths, kindergartens, etc., would at first sight appear to have little to do with the care of the indigent insane, but when examined closer in the light of Doctor Runge's comments, the connection is seen to be a very intimate one. The improvement in the hygienic surroundings and moral conditions of the slums will lessen the number of a city's insane poor, and further than this, will so increase their power of physical recuperation that, when they are the subjects of insanity, their chances for improvement or cure are infinitely better.

The insane asylum, in its broadest sense, must be looked upon as the permanent home of a large proportion of all the insane poor of the city, and in this respect it bears an intimate relation to all other agencies which work for the improvement of a city's indigent population. The author again makes, in this report, an eloquent appeal for a more generous appropriation for his institution, and he does well to base this appeal upon the city's progress towards the new St. Louis. It is often asked what is the fate of the chronic insane, crowded out of their rightful home by the constant influx of acute cases. To the regret of all, it must be said that at present eight hundred and seventy of them are sent to the poor house. This is a non-medical establishment, with a non-medical head. In this place are grouped together, without any attempt at classification, and for no purpose of treatment, epileptics, idiots, imbeciles, secondary demented, and all conceivable varieties of the chronic insane. Here they spend their lives without a chance for the improvement which might be given them if they were a part of the asylum itself. Doctor Runge makes an appeal for the unification of these two departments under one roof and under one head.

The annual report of the insane asylum is almost the only channel by which the physicians in the city can come in touch with that institution. Comparatively few of them know of the efforts that are there being made towards the better psychical treatment of the insane, or of the obstacles which are there daily met with and which are so often and so courageously overcome. The existence of so great a clinical material is scarcely realized by the physicians of this city, who now and then, in the course of their daily work, have occasion to add to its numbers. The use of this great institution for the progress of psychiatry can only come about when its needs in a practical way are met, and the first and strongest impulse toward this end must, after all, come from the body of medical men of the city. This report, therefore, is the only appeal and is the most forceful one which the superintendent can make for this purpose, and as such it deserves the attention and respect of every physician who is at all interested in the progress of medicine here.

RADICAL CURE OF CANCER OF THE RECTUM.

It takes time to establish or disprove the validity of any man's claim that his operative procedure is the proper one in the treatment of this or that pathological process. How common it is, as the years pass, for a certain operation to be modified by one surgeon and then by another, until a perfected technique has rendered truly valuable a principle which brought many a disappointment to its originator in his earlier experiences. So it has been with the operation des-

signed for the radical cure of cancer of the rectum; the earlier crude excision by the sacral route, with its mortality of forty per cent. in the hands of Kraske himself, is a far different matter, as far as technique and results are concerned, from the combined abdominal and perineal operation, though the principle has remained the same. Gaudier, of Lille, France, and the Mayos, of Rochester, Minnesota, are among the leading exponents of the last-named procedure; and it is to C. H. Mayo that we are indebted for a most exhaustive and logical review of the various steps which have led up to the present perfection of technique in this direction. At the St. Joseph meeting of the Western Surgical Association, Mayo told how the various pioneer operators have striven since 1870 to make the surgical treatment of this affection more radical, and at the same time to surround it with the same safeguards which obtain in the treatment of this dread affliction in other parts of the body. In order to arrive at the best results, long series of cases had to be studied, and each succeeding operator had to profit by the mistakes of his predecessors, until finally sepsis was eliminated by dividing healthy bowel high up and closing both ends; secondary stricture and incontinence were avoided by discarding the anal orifice and substituting the inguinal, while at the same time complete removal, hemostasis and speed in operating were all favored by the combined operation, viz., first, a laparotomy, and then the perineal operation in addition to it.

CANCER OF THE PROSTATE.

The evolution of the surgery of the prostate, while gradual, has been nevertheless striking, and it is not surprising that a disease like cancer of this organ should be subjected to an operative procedure.

Heretofore we have stood helpless before malignancy of the prostate, offering nothing better to suffering humanity than a permanent suprapubic opening of the bladder for drainage to relieve the pain of urination. While it is true, indeed that the organ has been attacked surgically, the results have been so discouraging that few have attempted it. In no disease is an early diagnosis more imperative than in cancer, and it is unfortunate that the facilities at our hands are so meager, and the symptoms so obscure, that there is no way of coming to a positive conclusion early in this disease. In this line, of much interest are the two cases of Pousson, which Oraison quotes in the May 1st number of the *Ann. des Mal. des Org. Genito-Urin.*

Recognizing the benefit given by total perineal prostatectomy, Pousson has taken advantage of this improved technique to remove the prostate in cases of beginning cancer, with such good results that we may hope that others will be impelled to undertake the procedure and further develop it. Oraison has called attention to the fact that cancer of the prostate is, relatively, a quite frequent disease, and that many of those which are supposedly hypertrophy are in reality malignant, and are especially of that variety known as circumscribed cancer. According to him, cancer of the prostate occurs under two forms: the circumscribed, where it has not passed the limits of the capsule; and the diffuse form, which has been well described by various authors and which, before now, has been the kind generally operated upon. In the first form operation is justifiable and effective, while in the second, where it has passed the limits of the capsule, it is contraindicated. We hope that the symptoms and means of diagnosis will be more closely studied, and some method of recognition of the disease in its incipency developed which may enable the surgeon to recognize and remove it before the limits of the capsule have been passed.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Traumatic Albuminuria.—ENGEL (*Berliner Klinische Wochenschrift*, 1903, No. 10).—A young man was thrown from a horse, and injured his right side. A urinalysis very soon afterwards showed the presence of 2 to 3 per cent. of albumin, and a trace of sugar. There were no morphologic elements in the urine. The patient remained in bed on account of the pains in the side. The albumin disappeared on the following day, and the sugar four weeks later. The urine of this patient had been examined several weeks prior to the accident, and was normal in every respect. The author believes that the injury, even though a slight one, was responsible for the albuminuria, and suggests that probably many of the cases of albuminuria in apparently healthy individuals, are due to slight injuries that have been overlooked.

A Case of Nephritis Parenchymatosa Syphilitica.—ULUEHLIG (*Muenchener Medicinische Wochenschrift*, No. 12, 1903) presents this case in answer to the question raised by Wagner in Nos. 50 and 51 (1902) of this journal. He raised the question as to whether or not a parenchymatous nephritis ever occurs in the secondary stage as a result of syphilis, as does interstitial nephritis in the tertiary stage. In the case here reported an acute parenchymatous nephritis developed in a twenty-six-year-old individual two weeks after the appearance of a hard chancre, and five weeks after the coitus. The secondary lesions appeared eight weeks after the primary lesion. The nephritis yielded promptly to treatment with mercurials, after other methods of treatment had failed.

Cylindruria and Albuminuria in Erysipelas.—POLLATSCHEK (*Centralblatt fuer Innere Medicin*, No. 20, 1903) finds that in 38 per cent. of the cases of erysipelas there are evidences of a kidney lesion. This may manifest itself in albuminuria, or cylindruria, or both. The existence of a great deal of albumin, with casts, etc., in the sediment may be purely transitory, and does not justify, in itself, a bad prognosis.

A Case of Fibrinuria in Nephritis.—LOSTORFER (*Wiener Klinische Wochenschrift*, No. 7, 1903) reports a case of nephritis in which the clear, light yellow urine contained large pieces of coagulated fibrin. They were passed without any difficulty on the part of the patient. The urine was so rich in albumen that it could not be determined by the Esbach urinometer, without dilution.

Recent Observations Concerning the Etiology and Treatment of Hay Fever.—THOST (*Muenchener Medicinische Wochenschrift*, June 9, 1903).—Dunbar has demonstrated the existence of a poison in pollen which he believes to be the cause of hay fever. He succeeded in producing, even in winter, the symptoms of hay fever in those disposed to it and was not able to influence those who were not predisposed. The pollen is dissolved in ether and the toxin is precipitated with alcohol.

This poison is especially easily dissolved in saliva, tears, nasal mucus and in blood serum. When the toxin is introduced into the nose and eyes of those disposed to hay fever it produces sneezing, itching, tearing, etc. If introduced

subcutaneously it produces, aside from hay fever symptoms, dizziness, hoarseness, pain in the chest, audible breathing, etc. At the point of injection there occurs a marked swelling.

Serum was taken from animals that had been inoculated with this poison and injected into those disposed to have hay fever. After this they showed no reaction whatever to fresh pollen applied to the nose, eyes, etc. The immunity lasts for little more than twenty-four hours.

If serum is mixed with the pollen toxin it is practically rendered inert, and produces no symptoms if injected hypodermically, or applied locally to the nasal mucous membranes. Some animals show a greater susceptibility to the poison than do others—goats and rabbits being especially susceptible.

A series of experiments have been carried out recently on a large number of patients with very positive results. Whether or not this serum acts in the same way upon regular hay fever patients, as it does upon those artificially produced with the pollen toxin, can only be determined during the hay fever season. Even though it may not alleviate all of the symptoms in every case, it will at least enable us to differentiate between the true and false hay fever. The author believes that the Dunbar pollen toxin and antitoxin proves conclusively that hay fever is nothing more than an idiosyncrasy of certain persons against certain pollens. The hay fever period in Hamburg is from June 3d to the latter part of July. In North Germany this is simultaneous with the blossoming of rye.

The antitoxin was found to have no effect on cases of bronchial asthma, influenza, and nervous affections of the upper respiratory tract.

Before the hay fever season begins, patients having other complications, gout, circulatory disturbances, etc., must be treated for these disturbances in order to be able to resist the attack.

Local applications of cocaine, eucain, adrenalin, etc., may be made to the conjunctiva. Nasal douches are in some cases very advantageous.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Results of One Thousand Operations for the Radical Cure of Inguinal and Femoral Hernia.—COLEY (*Annals of Surgery*, June, 1903).—Communications are always eagerly welcomed from Coley, whose experience has been much larger than that of any other man in America. In three hundred and seventeen of the cases here described, the patients were over twenty years of age, but the author does not admit that his excellent results are in part due to the fact that a large majority of his patients are under the age mentioned. He claims, on the contrary, that it requires the best method and the best technique to get as good results in children as in adults. Of his two hundred cases in the female not a relapse is recorded, nor did a patient die; certainly an enviable record. Eleven out of nine hundred and seventeen cases in which the cord was transplanted according to Bassini, relapsed and some were reoperated; but a little more than 1 per cent. These observations, which cover a period of eleven years in some cases, go to show that most of the recurrences may be expected in the first year, and that a patient who remains well for two years may be considered permanently cured. (Most authors say three or five years.) There is surely a great advantage to be drawn from a study of the author's cases which relapsed, though the histories cannot be given here in full. In his chapter on the technique he declares that he has discarded not absorbable suture material; he uses the

Bassini method with the exception that an extra suture is placed in the muscle above the cord. His patients are kept in bed for two weeks and wear a support for four weeks. As to the indications for operative treatment, it may be said in general that the author does not advise it in patients under four, but does recommend it in all others under fifty, unless there be a strong contraindication.

Massage of the Bared Heart in Chloroform Collapse.—ZESAS (*Centralblatt fuer Chirurgie*, No. 22, 1903).—Nothing of this kind had even been heard of until 1898, when Tuffier made an attempt to bring the dead back to life, with but temporary and transitory success. Twelve such cases in all are on record, and in but one was it possible to prolong life for a period as long as eleven hours. It seems that the heart can be exposed without the pleura being opened, still it is not the author's idea that the prognosis in such cases will ever be improved by any such procedure. [Why then after so many trials should the cadaver be mutilated in future by such apparently futile endeavors?—REV.]

Involvement of the Internal Mammary Lymphatic Nodes in Cancer of the Breast.—CLERMONT (*Archives Provinciales de Chirurgie*, Tome xii, No. 6).—The patient whose condition is described had a tumor in the median portion of the breast, but no lymphatic involvement of axilla, etc. But just above the sternum there was a small, hard mass to be felt, this same reaching down behind the bone. At the patient's request the tumor was removed for cosmetic reasons, in spite of the intra-thoracic involvement. The immediate results of the operation were all that could be desired, but eight months later the patient succumbed to cancer of the liver. The observation of this and similar cases forces the writer to certain unavoidable conclusions. In the first place, the connection between the breast and the lymphatics of the internal mammary region is proven by anatomical studies; then this may shed light upon the fact that visceral metastatic lesions frequently follow carcinoma of the breast, though there may never be any involvement of the external (axillary) nodes. In conclusion, there is stated the desirability of an early diagnosis of intra-thoracic metastases, with the suggestion of operative treatment. (Such an operation has been done by Dr. Cushing at the Johns Hopkins Hospital; the lymphatic chain was followed down after removing diseased nodes in the neck.)

A Carcinoma of the Breast Successfully Treated with the Roentgen Rays.—MIKULICZ and FITTING (*Beitraege zur Klinischen Chirurgie*. Bd. xxxvii, Hft. 3).—All of the older means of fighting cancer simply acted like the knife, inasmuch as they were simply intended to destroy the tissues. There was nothing like a specific action, since healthy and diseased alike were dissolved by the pastes, etc. Thus, in a sense, the x-rays open up a new field, since they may be said to exert a sort of elective action upon the cancer cells or tissues alone. In the case under discussion the lymphatics of both axillæ were first cleaned out, and then a specimen for diagnosis was removed from the ulcerating mass; this was proven by the microscope, it may be added, to be cancer. Four weeks later, the x-ray having been applied continually meanwhile, the ulcer had become epidermized in the usual manner, and the microscope showed that there were now no cancer particles in the tissues examined at this time. Surely a remarkable as well as an interesting discovery. It is remarkable that the rays work to a much greater depth in one individual than in another, and it would seem to be the connective tissue which offers a resistance, not the epithelium. In the present case the mass was ulcerated; hence the rays could reach it, and the change which is said to take place consists in a degeneration of the cancer epithelium alone. In conclusion, it is affirmed that the knife must remain the remedy for all such tumors unless they be very superficial or very slow in growing.

The Embolic Transmission of Projections.—SCHLOFFER (*Beitraege zur Klinischen Chirurgie*, Bd. xxxvii, Hft. 3).—The case here presented can safely be said to be the only one of its kind on record. A man tried to commit suicide by shooting himself in the left breast. When seen, a few hours later, he was in collapse; but what struck the surgeon especially was that the left radial pulse could not be felt at all. When the man revived he complained of great pain in the affected member; it was cooler than the other, and in various ways it became evident that there was a serious impediment to the flow of arterial blood into the part. The manifestations of an ischemic paralysis also appeared, and then the author, in seeking for the bullet, detected a hard, round object just outside the thorax, where the subclavian artery goes into the axillary. Under the influence of massage and other treatment the condition of the arm slowly improved, while the radiograph showed the resistance above referred to, to be the projectile. As time went on an infection occurred in the vicinity of the ball, so it was considered best to remove it; whereupon it was proven to lie within the artery, as had been suspected.

Another interesting case is detailed by the author, of a man who was shot in the upper third of the thigh, and the ball removed from the posterior tibial artery. In all the literature there exist ten cases in which a ball was shot into the lumen of the circulatory apparatus and then carried to another point, but the above instance (axillary artery) is the only one in which the patient escaped with his life.

Experimental Investigations Concerning the Increase or Decrease of Germs in Accidental Wounds Under the Influence of Dry or Wet Dressings.—GONTERMANN (*Archiv fuer Klinischen Chirurgie*, Bd. lxx, Hft. 2).—After exhaustive experiments the author comes to the conclusion that there is no evidence that germicides actually retard the growth of bacteria in a wound. At the same time the bacterial increase in a fresh non-suppurating wound is favored by wet more than by dry dressings. Iodoform gauze is the best dressing for accidental wounds; by being a good hemostaticum it favors asepsis. Wet dressings cause eczema and abscesses in the hair follicles, through the skin being macerated. Wet dressings do not guarantee that a wound will not suppurate. When a wound is once full of pus, the number of germs decrease more rapidly under a dry than under a wet treatment. Many accidental wounds which are full of germs, heal without any sign of what we term clinically, inflammation. [The above article is from the great v. Bergmann clinic in Berlin; it has long been the custom there to use dry dressings for everything, in view of which fact, it is almost ludicrous that they should now cause experiments to support a position which the rest of the surgical world has long since found to be untenable.—REV.]

The Operative Therapeutics of Dangerous Hemorrhage After Tonsilotomy.—BURKARD (*Wiener Klinische Wochenschrift*, No. 22, 1903).—The ligation of the common carotid as well as the ligation of the external carotid is fruitless usually in the treatment of this affection, and anatomical relations teach us why this is so. It does no good to ligate the external, because the tonsillar is often a branch of the ascending palatine, which in turn originates from the ascending pharyngeal, an artery that often comes from the common or internal carotid. Then rich anastomoses with the descending palatine as well as the vessels from the other side, make ligation of the common carotid useless; and all admit that it is dangerous. The best remedy that has been suggested came from Prof. Nicoladoni, viz., to excise (from without) the stump of the tonsil, and then to sew up the defect with deep through-and-through sutures which shall include all the component tissues of the pharyngeal wall, thus catching the bleeding vessel itself.

Contribution to the Surgical Treatment of Varicose Ulcer of the Leg.—BRAULT (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 21).—While simple ulcers of the leg are greatly benefited by skin grafting, this is by no means sufficient in case there are varicosities at the bottom of the trouble; here the surgeon must attack the cause of the trouble, and it is to be sought in the veins affected and the nerves which supply the affected area. The author is an adherent of the circular (partial) incision below the knee and ligation of all the veins met with. Some do an open operation and let the wound heal by granulation, but this procedure is too slow, and besides the scar often results in a serious constriction. Brault recommends simply a "horse-shoe" shaped incision behind and internally, believing that all the important veins are divided by such an one, provided it is carried to the proper depth. It has been his experience that the incision is usually well in a week, and the ulcer covered with epithelium in about two weeks. Seven cases in which the operation was performed are related, and the results seem to have been most satisfactory.

Spinal Paralysis Caused by a Sarcoma of the Sixth Dorsal Vertebra Cured by Operation.—ISRAEL (*Berliner Klinische Wochenschrift*, No. 22, 1903).—Three months after the motor symptoms commenced in this case there was complete paralysis of both legs as well as trouble with the urination. In the article it is beautifully shown how the diagnosis was made between an intra-medullary and an extra-medullary affection, but it was impossible to say whether or not the trouble was in the dura or in the vertebra. Focal symptoms allowed the author to localize the tumor at about the height of the sixth vertebra, a fact which was confirmed by the operation, which resulted in the cure of the patient. There was found a spindle-shaped mass about three centimeters in length which, on account of its consistence, could be removed only by the use of the curette. At the same time the vertebra was seen to be involved, and in the effort to remove all the affected bone the pleura was opened, though this latter accident did not seem to affect the patient in the least. Recovery after the operation was so rapid that the individual was able to stand within three months, and soon after to walk alone. Eight months after the same the woman was in splendid shape, there being no sign of a recurrence.

Necrosis of the Gall Bladder.—CZERNY (*Muenchener Medicinische Wochenschrift*, No. 22, 1903).—The bacterium coli communis, which causes most of the diseases of the appendix, is also responsible for similar conditions in the gall bladder in many instances. However, when we have to do with gangrene in total or partial of this last named viscus, then we must presuppose an extensive circulatory disturbance.

The author describes two cases in which this rather rare lesion was present. In the first, the mucous membranes, as a whole, was cast off; and in spite of a timely operation, with free gauze packing and drainage, the patient died as a result of the formation of a subphrenic abscess. In a second case the mucous membrane was also necrotic, but here the patient recovered from the first operation only to have to undergo a second for the relief of symptoms caused by a stone being left behind in the cystic duct. Neither of these cases had presented characteristic symptoms, so they are properly relegated to the class which our author terms "cholecystitis larvata." Czerny is not as radical in his method of operating upon these cases as are most surgeons of the present day. In fact, he even admits that he may not go far enough in many cases, as he certainly did not in the two under discussion, when it would surely have been advisable to remove the gall bladder in its entirety. His custom in most cases is to close the gall bladder around a rubber drainage tube and thus get a fistula, which he declares usually heals in about three weeks.

The Function of the Upper Extremity After Total Removal of the Scapula for Sarcoma.—QUENU and RENON (*Revue de Chirurgie*, 1903, No. 4).—The authors are to be congratulated upon the fact that they conserve all the movements of the arm after an operation so mutilating as the above. The form of the shoulder is, moreover, not so much changed as not to be amenable to perfect repair at the tailor's hands. The head of the humerus is firmly fixed in its new position, and the way the happy termination of the case has been brought about will become apparent as we proceed. Radiographs taken before and after the operation are interesting to look upon. After the removal of the bone, the head of the humerus was fastened by a silver wire to the drilled clavicle, and the soft tissues of the vicinity sewn to other portions of the capsule: and it is worthy of note that the bone has remained in the new position, a fact which must in a great measure explain the good appearance of the part as well as the excellent functional result. The patient is in such good shape (less than a year having passed) that he can now work as a telegraph operator. A study of the literature shows that twenty-five of thirty-nine such cases have turned out satisfactorily, and in all of these the humerus capsule was fixed in the desired new position. It is also important to mention that the muscles were treated in the following way by Quenu: the latissimus dorsi was sewn to the deltoid and rhomboidii, while the trapezius was also sewn to the deltoid.

The Diagnostic Value of the Leucocyte Count in Appendicitis.—STADLER (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Bd. xi, Hft. 3).—The author concludes that the leucocyte increase or decrease depends upon the tendency of the disease to progress or to become limited. Lists of cases show that the temperature has nothing to do with the matter; that is, leucocytes may increase while the temperature falls, or the reverse may occur. Not so much depends upon the height of the count itself as upon the increase of the leucocytes or upon the persistence of a high number. Our author agrees with most other writers in the opinion that the blood count furnishes us with the surest of all the clinical symptoms of the presence of pus in appendicitis. Further, it has the same value in determining whether or not we have evacuated every cavity, and also informs us if we have left circumscribed collections behind. What has been said applies only to the acute stages of the disease; small collections which have become thickly encapsulated may, in the course of time, reach a point where they fail to give the characteristic reaction. In general peritonitis the number will never rise, or, if it has risen, will fall rapidly to a point below the normal, thus furnishing us with the information that the number of leucocytes is, after all, but an index of the patient's resistance.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

Clinical Observations With Aronson's Antistreptococcus Serum.—FRITZ MEYER (*Zeitschr. fuer diatetische und physikalische Therapie*, April, 1903).—When Aronson published his first article on antistreptococcus serum last July, new hope arose in the breasts of all clinicians who had hitherto had only unfortunate experiences with such sera. The publication contained an account of an enormous number of animal experiments which seemed to prove beyond question that a potent and, it was to be hoped, a valuable serum had been produced. It had been produced as follows: Mice were inoculated with a streptococcus obtained

from scarlatinal tonsils, and by means of a very large number of passages through mice an extremely virulent streptococcus culture was obtained. This virus was injected into horses in continuously increasing doses, and after months of such treatment a serum was obtained so potent that 0.01 c.c. sufficed to protect a mouse from twenty times the fatal dose of virus. It was even possible to heal an animal that had already developed a severe infection.

Since the possible ill effects of the serum had not yet been disproven, Meyer used only small amounts, never more than 20 c.c. Of course, only such cases were selected in which the infection was unquestionably due to streptococci. In all eighteen cases were treated. Of these, an unquestionable cure was obtained in five, in two the effect was doubtful, while in eleven no beneficial effect was obtained. The five cases first mentioned were as follows:

CASE 1.—Facial erysipelas, five days old; rapid fall of temperature within twenty-four hours after the injection, and complete recovery twelve hours later.

CASE 2.—Facial erysipelas, ninth day. Complete recovery within twenty-four hours.

CASE 3.—Facial erysipelas, thirty-first day; complete recovery, twenty-four hours after the injection.

CASE 4.—Double tonsillitis with purulent exudate; complete recovery twelve hours after the injection.

CASE 5.—Puerperal sepsis, seven days after labor and four days after the beginning of the fever; injection of 20 c.c. serum; the next day pulse and temperature were normal and the patient felt well; on the following day again a rise of temperature with weak and rapid pulse, whereupon a second injection was made; on the next day, the pulse and temperature were again normal and patient felt well. A subsequent relapse could not be combated on account of a temporary lack of serum and the case ended in slow recovery, the temperature falling by lysis.

In the two uncertain cases, the injection seemed to be followed by improvement, but the latter was not unmistakably due to the serum.

The last group consists of the patients whose illness was not influenced by the serum. There were three cases of erysipelas, two of scarlatinal rheumatism, and six of severe general sepsis. The last were of such a character that when they first came under treatment they appeared quite hopeless, so that the failure of the serum to influence the disease was to have been expected. In none of the eighteen cases did the serum produce any ill after-effects.

The above results are very encouraging. The observations were carried out in a keenly critical manner, and indicate that the serum, while not able to work miracles is of distinct value in the treatment of streptococcus infection.

Leukemia and Miliary Tuberculosis.—H. QUINCKE (*D. A. f. kl. Med.*, Vol. 74, Nos. 5 and 6; *Die Heilkunde*, February, 1903, p. 71).—Prof. Quincke reports two cases of medullary leukemia and one of pseudo-leukemia, all of which were complicated by the coexistence of an acute miliary tuberculosis. After the development of definite tubercular symptoms, the leukemia underwent a retrogression, the spleen became smaller, the white corpuscles became normal in number, disappearing through disintegration and solution, so that finally the blood picture was merely that of a secondary anemia. In all probability the tubercle bacilli, like all other pathogenic micro-organisms, produced toxins either by themselves or through their action upon the cells of the body; these toxins, however, instead of producing a hyperleukocytosis and splenic tumor, as do other pathogenic bacteria, seem to have a destructive influence upon the white corpuscles. Since we have in tuberculin at least a portion of these toxins, its therapeutic use in leukemia might be worth a trial. It is not impossible that by its means the excessive leukocyte forming activity of the bone-marrow and the lymph-glands might be checked.

The Therapy of Relapsing Fever.—DR. JUSTIN KARLINSKI (*Wiener Klin. Wochenschr.*, No. 15, 1903).—The spirillum of relapsing fever has thus far yielded only to remedies that act deleteriously on the constitution of the patient. Karlinski observed, however, that common salt aided greatly the agglutinating power of the blood serum of such cases and so prevented a relapse. Subcutaneous transfusion of 1250 cu. cm. of a one per cent. salt solution was tried in four cases with good result. In no case did a return of the fever occur.

On the Therapeutic Value of Heroin.—DR. A. CRHA (*Die Heilkunde*, May, 1903).—The usual dose employed by the author was three milligrams two or three times a day. He employed it particularly in cases of phthisis and laryngeal tuberculosis with excellent results. He found it of little service as a hypnotic. Its special advantage over previously employed remedies lies in its acting in smaller doses: Six to eight drops of a 1 per cent. heroin solution work as effectively as fifteen drops of a 2 per cent. codeine solution and the action of 3–5 mg. heroin = 0.01 gm. morphine. The habit is acquired very slowly. Above all, it does not cause digestive disturbances.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Die Bekaempfung der Malaria.—ROBERT KOCH (*Zeitschr. fuer Hyg. u. Infect. Krankh.*, Vol. 43, Heft 1, 1903).

Die Malaria Bekaempfung in Brioni (Tstrien).—P. FROSCH (*ibid.*).

Die Bekaempfung der Malaria in Puntacroce.—BLUDAU (*ibid.*).

Bericht ueber die Malariaexpedition in Deutsch Suedwest Africa.—VAGEDES (*ibid.*).

Die Bekaempfung der Malaria.—OLLWIG (*ibid.*).

Die Bekaempfung der Malaria in der Maremma Toscana.—P. GOSIO (*ibid.*).

Ueber die Verhuetung eines Malariaausbruches in Wilhelmshafen.—E. MARTINI (*ibid.*).

Beitraege zur Keuntniss der Anopheles.—D. DOENITZ (*ibid.*).

It is another monument, *vere perennius*, that Robert Koch has erected for himself by the direction of the enormous work reported in the above named publications, the results and consequences of which will be so far-reaching that we at the present can hardly realize them. Following the discovery of the relation of mosquitoes to the etiology of malaria, very soon plans were laid to exterminate the disease. Carried along by their enthusiasm, the majority of the investigators could only see that the anopheles was the propagator of the plasmodia, and that its extermination would naturally mean the death of malaria. From this thought arose the fight against mosquitoes on which, till today, in most countries, so far as they have taken up the fight, the greatest stress is laid. In fact, it is the general conviction that not before mosquitoes are annihilated will malaria cease. Practically, this conclusion is of course correct; the question is, whether we will ever be able to deal in this way successfully with the mosquitoes. Aside from the question of financial capacity, the point has to be well remembered that it may be possible to prevent the breeding of mosquitoes in circumscribed localities, in cities, etc.; but it is a fact that it is altogether out

of the reach of our means and would be against our own interests if such an extermination should be extended over almost the whole surface of the globe, which would be necessary. The extravagant hopes and plans made, for instance, for New Jersey, were conceived wildly, and by this time the immense task that they would involve begins to become disagreeably felt.

Koch had long since seen that this method was impracticable and never would be successful. We can master, as we call it, our earth, but in order to do away with mosquitoes we would have to resort to procedures interfering with our own existence. Koch's conclusions from the new discoveries directed his attention to the malaria-patient; he saw that if every malaria-patient could be properly treated so that he could not be any longer the carrier of plasmodia, any number of anopheles might exist without any fresh infection occurring. He expressed this opinion years ago, but of course was ridiculed by mosquito enthusiasts.

Nothing daunted, he put his theory into practice in that little village in New Guinea, Stephansort, where by careful observation, general blood examination and thorough treatment of the infected persons, he succeeded within a year's time to reduce the formerly frightful morbidity of malaria to a few cases that could be proved to have been imported from the outside. This classic experiment has been the basis of the publications here discussed. Provided with means by the German government, he selected the localities named in the titles of the quoted papers (islands, villages, areas with steady and ambulant population, in tropical and subtropical countries, the number of individuals under control varying in the different places from a few hundred to thousands). Through local conditions and other circumstances it was possible to keep track of the population under observation, and even to enforce the blood examination and the treatment. All of the localities were feared as foci of malaria. Under Koch's directions the different expeditions were organized, the work beginning with a general blood examination, finding the plasmodia-carriers and submitting them to treatment. At all places this beginning was made in ample time before the malarial season of the locality, so that the cases apprehended were all of them remnants of the previous season, and thus (after Koch's theory) the greatest danger for the coming season. All newcomers were likewise examined, and, besides, if regular communication with other malaria-infected places obtained, the observation and control extended to these places. No attempts were made anywhere to exterminate mosquitoes. The result has been that everywhere the first season proved to be one of almost complete absence of fresh cases of malaria, while a few cases occurring during the second season (after which the investigation was closed) always could be shown to be of extraneous origin.

On a wide and imposing basis Koch has thus furnished the absolute proof for his contention that malaria can be easily exterminated by a thorough and adequate treatment of every infected individual.

It is not the place here to enter into a discussion of the many important and interesting details that these investigations have brought to light (the great malaria morbidity among children, the latent malaria infection without symptoms, the influence of physical conditions on the susceptibility, etc.); the reports are full of them, and form an inexhaustible source of knowledge and suggestions.

The question that most concerns us here is the practicability of the method if used on a larger scale. In the first place, it must be said that the experiments were made under very varying conditions, among people able to appreciate their meaning, and among others bare of any knowledge. In all cases the necessary control could be comparatively easily obtained, first by suggestion and persuasion, but very soon by the recognition that the welfare of the individual and the whole community was enhanced by it. Practically the most important point is

that all this was done with means that were very limited and did not amount to as much as would be necessary to sanitize a square mile of ground, for instance, around New York or in New Jersey. The method, too, needs not a complicated and specially skilled personnel, and a great number of the necessary manipulations (taking of blood specimens, administration of quinine, even examinations, etc.) can be performed perfectly satisfactorily by non-professional individuals. Koch's collaborators have utilized with advantage for this purpose nurses, school-masters, ministers, etc. If once the beneficial influence of such a plan is understood, it can be carried through with little expense.

The paper of Martini is interesting as showing that prophylactically, too, Koch's method is absolutely reliable and practicable. In former years at Wilhelmshafen all work which caused the breaking up and moving of much ground was followed repeatedly by an extensive outbreak of malaria. This was feared, too, when the great new constructions for the German naval force were undertaken, and so Martini was appointed to guard against an epidemic by means of Koch's method. The result has been that only a few imported cases of malaria were observed, and that the morbidity of malaria was lower than in former years.

Doenitz's paper on anopheles contains careful investigations on a great number of new species of this genus collected by Koch and others, the details of which cannot be shortly discussed.

The So-Called Cross-Striation of the Muscle-Fiber.—KARL MUENCH (*Archiv. fuer Mikrosk. Anatomie u. Entwicklungsgesch.*, Vol. 62, Heft 1).—Muench, after a method based on physical and mathematical principles, comes to the conclusion that the sacred conception of the metamerie structure of the striated muscle-fibers is incorrect. The muscle-fiber is an indivisible unit, and the contractile element is neither the fibril nor the disc nor the sarcoous element, but is given by the totality of which these parts form the building material. The contractile principle proper is an anisotropic disc-spiral that, held in position by twofold interanisotropic energies, winds its way through the fiber. The direct demonstration of this disc-spiral, as well as the mathematico-physical proofs for its existence, are very convincing, and are supplemented by excursions into pathologic conditions (fragmentation, splitting, etc., of the fibers). It is impossible to give in a few words the essence of the author's ideas, but the following words may be quoted which have reference to the mode of action of the contractile principle in the fiber: "If the fibril or the sarcoous element would be the contractile principle, the complete and absolute unity (*Einheitlichkeit*) of the fiber would appear as an inconceivable accident without reason and purpose. But there is no accident in histology—as little as in astronomy." Whatever the final decision about Muench's reasoning may be, the paper shows how shallow is the basis for most of our explanations of microscopic pictures, and how easily they may be overthrown when we turn to the pictures with other than our always preconceived thoughts. As it is, the metamerie conception of the structure of the muscle-fiber must be proved, if it is correct.

Remarks About the Pathology of the Appendix.—H. RIBBERT (*Deutsche Medicinisch. Wochenschr.*, 1903, No. 23).—In a previous paper the author had demonstrated that obliteration of the appendix was observed in the majority of individuals coming to autopsy. He pointed out that the percentage of these cases increased with their advancing age. Since it is impossible to imagine that the appendix should in the majority of human beings be at some time the seat of an acute inflammation leading to obstruction and obliteration, Ribbert connected this phenomenon with the rudimentary character of the organ. Further observation and study, however, convinced him that if such was the case we should rather expect to find a diminution in the size of the appendix than obliteration of its

lumen. Comparison with obstruction following acute inflammation showed that, histologically, in most cases it was identical with the obstruction he had found. Its causation, then, must be given by chronic irritative influences acting on the mucosa of the appendix, a position which, on account of the peculiar relations of the appendix, has been urged by other observers also. This irritation, of course, does not cause symptoms (only sometimes in so-called chronic appendicitis), but gradually brings about the same final result. Ribbert is inclined to believe that the resorption of bacterial toxins, for which the copious lymphatic tissue of the appendix would be accusable, might be at the bottom of the process, and not an active penetration of the bacteria into the mucosa, as in acute appendicitis.

The Relations Between the Occurrence of Glycogen in Leucocytes and Infection.—A. WOLFF (*Berl. Klin. Woch.*, 1903, Nos. 17 to 19).—Kaminer had asserted that constant relations existed between the appearance of glycogen in leucocytes and infection, which fact was taken as a very strong evidence for the correctness of Metschnikoff's phagocytic theory. A. Wolff, in very careful investigations, shows that a constancy of this relation does not exist, and that the glycogen-reaction of leucocytes is evidence of retrogressive changes in them. As such it is seen always in extravascular leucocytes (pus corpuscles, etc.), and under certain conditions can occur in the circulating blood. The influences leading to it can be of very different character (bacterial infection, intoxication, diabetes, etc.). There is no direct connection between leucocytosis and glycogen-reaction, as shown by the absence of the latter in the leucocytosis of anemia, of digestion and in leucemia. The disintegration of the glycogen containing leucocytes occurs in the spleen and in the bone marrow (rabbits).

The Agglutination of Staphylococci.—R. OTTO (*Centralbl. fuer Bacteriologie*, Vol. 34, No. 1).—Otto, working in Koch's laboratory, has compared the agglutination of different staphylococci by sera which were obtained by the immunization against the staphylococcus aureus, albus and citreus. While all of these forms were agglutinated by one and the same serum, agglutination never occurred in saprophytic staphylococci. The author concludes that among the many forms of cocci found, there is only one pathogenic for man. Under varying conditions this form can produce pigment of different color. By means of the agglutination, pathogenic and saprophytic cocci can be differentiated. The pathogenic cocci produce hemolysin, the saprophytic not.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

The Function of the Corpus Luteum.—L. FRAENKEL (*Archiv fuer Gynaekologie*, Vol. 68, 1903).—It is well known that the ovaries serve some other purpose besides discharging ova at more or less regular intervals. The distinct effect of extirpation of both ovaries upon the other genital organs and upon metabolism, the possibility of preventing these effects by transplanting ovarian tissue or feeding ovarian substance, have proven beyond doubt that the ovaries produce some substance that is of integral importance for a normal function of the genital apparatus in the female. During the last few years the internal secretion of the ovaries was the object of much speculation, just as was the function of all the other "ductless" glands.

This paper of Fraenkel—it should more properly be called a monograph—is a resume of a large series of experiments and observations made by the author, which tend to prove that the production of this potent secretion of the ovary is confined to the corpus luteum. In brief the results of his very painstaking investigations are the following: The corpus luteum is a gland, in the human female formed for a four weeks' function. Its main duty consists in stimulating the function of the uterus. It is an indispensable factor in the production of menstruation. If all the corpora lutea are extirpated the uterus becomes atrophic. For the process of nidation of the impregnated ovum in the uterine mucosa the presence of a corpus luteum is necessary. An extract produced from the corpora lutea of the cow immediately relieved the well-known symptoms of artificial menopause in several cases. The difference in the efficacy of the various ovarian preparations is easily explained by the fact that their therapeutical value is dependent upon the number of corpora lutea present in the ovaries used in the manufacture of these preparations.

The article abounds with a great number of interesting details as regards the histology and pathology of the corpus luteum, the connection between abnormalities of the latter and abnormalities in the situation and development of the impregnated ovum, that for obvious reasons cannot be mentioned here.

Shall Bossi's Method of Dilating the Cervix be Considered an Advancement in Obstetrical Therapeutics?—DUEHRSEN (*Archiv fuer Gynaekologie*, Vol. 68, 1903) answers this question in the negative. He makes the numerous reports of cases, in which Bossi's dilator has been employed, the object of a careful and critical consideration and concludes that the Bossi method affords neither a satisfactory nor a safe mode of rapid dilatation of the cervix. In cases in which an immediate emptying of the uterus is indicated, better results will be obtained with multiple incisions in the cervix, or the typical vaginal Cesarean section, as first advised by the writer and recently highly recommended by Bumm. (Confer abstract in this JOURNAL, February, 1903, page 114.)

On the Anatomy of the Pregnant Tube.—HENRY RUSSELL ANDREWS (*Jour. of Obstetr. and Gyn. of the Brit. Emp.*, May, 1903).—This article embodies our present knowledge of the anatomy of the pregnant tube (very clearly exposed in all details in the "*Referat*" recently prepared by Professor Hofmeier for the meeting of the Society of German Gynecologists.—Ed.) There is no formation of decidua that could be compared with that occurring in the pregnant uterus. The impregnated ovum penetrates into the mucosa exactly as it does in the uterus, but develops in the tube outside of the tubal lumen within the muscular layers. The trophoblast enveloping the ovum possesses an eroding power. Invading the tubal muscle it impairs its integrity and brings about rupture of the pregnant tube. The trophoblast erodes the walls of blood vessels, thus producing hemorrhages which in their turn lead to tubal abortion.

A Contribution to the Question of True and Simulated Ectopic Pregnancy.—KARL KOBER (*Centralbl. fuer Gynaek.*, May 30, 1903).—In a paper published in *Zeitschrift fuer Geburtsh. und Gyn.* (Vol. 48, 1903), Schambacher propagates the idea that retrouterine hematocele might often be due to some other cause than ectopic pregnancy. Kober opposes this view and proves on the histological picture of a tube which, undoubtedly, had been the seat of an ectopic pregnancy that sometimes only in a very limited area the characteristic changes of pregnancy may remain undisturbed. He very justly concludes that only a careful examination of the entire tube in uninterrupted serial sections will permit of excluding the probability of pregnancy and that at present the view first pronounced by Veit and Fritsch still obtains, namely, that almost every retrouterine hematocele is due to an ectopic pregnancy.

Death From a Single Vaginal Douche.—G. DE N. HOUGH (*Boston Med. and Surg. Jour.*, April 9, 1903).—The writer describes two cases in which a single vaginal douche led to a fatal result. The first case concerns a woman, who had miscarried in about the fourth month of pregnancy. The following morning a douche was given of one quart of a 1 to 1000 solution of corrosive sublimate. In forty-eight hours the typical symptoms of a bichloride intoxication developed and patient died of exhaustion fifteen days after receiving the douche. In the second case a douche of a 1 to about 1000 solution of formalin was given four days after vaginal hysterectomy had been performed for sarcoma of the uterus. This douche caused the patient severe pain, soon afterwards she passed into a condition of collapse and died within a few hours. The writer believes that a part of the injected fluid penetrated to the peritoneal cavity, and produced a severe shock to which the weakened patient succumbed.

(The first case is of considerable practical importance. Repeated warning has been sounded against the use of bichloride douches in obstetrical work, but it seems the danger of such a practice is not yet generally recognized.—ED.)

Diffuse Septic Peritonitis After Curettage of a Fibromatous Uterus.—H. J. BOLDT (*Americ. Jour. of Obstetr.*, March, 1903) reported the following instructive case to the New York Obstetrical Society: The patient had been advised to have a fibroma of the uterus removed, but refused operation. Her family physician then curetted her, maintaining that no force had been exerted by him with the instrument. Two days later she began to have intense pain in the abdomen, high temperature and chills. When seen by the essayist on the fourth day the physician stated that he felt the curette disappear three times and that he thought he had entered the Fallopian tube with the instrument. The writer made a diagnosis of perforation of the uterus. Patient was brought to a hospital. On opening the abdomen the stench was so intense that it forced the operator to turn aside momentarily. It was found that the uterus was ruptured by the fibroid which partly extruded into the abdominal cavity. The tumor was gangrenous. On opening the uterus it was seen that the tumor had three perforations in it. Uterus with neoplasm and adnexa was extirpated. Patient died of sepsis.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Prolonged Withdrawal of Food in Certain Cases of Intestinal Disorders in Children.—PARKE (*Jour. Amer. Med. Ass'n*, June 20, 1903) calls attention to the fact that infants can safely be deprived of all food except water for much longer periods of time than have been advised in the text-books, and insists upon the value of this procedure in the management of severe cases of intestinal disorder. It is a well-known dictum of treatment in cases of ileo-colitis of infancy, that all foods should be withdrawn for twenty-four to forty-eight hours. The author reports two cases—one a child of fifteen months, and the other an infant of ten months—where, after forty-eight hours of withdrawal of food, the symptoms did not improve. Fever and bloody stools continued. He thereupon made the experiment of continued starvation, and in the first case starved the child for five days; in the second for eight days, water *ad libitum* being allowed. Both of these children recovered, and in neither case was the emaciation at all excessive. While the author does not recommend indiscriminate starvation, he believes that these cases should be put on record as showing that children with

severe intestinal disturbances will at times recover more quickly on water alone than they will on food of any description that a disturbed intestinal tract cannot assimilate.

"Sea-air" Cure of Tubercular Peritonitis.—LEROUX (*Arch. de Med. des Enf.*, June, 1903) reports the case of a girl of eleven years, suffering with the fibro-caseous form of tubercular peritonitis with the addition of tubercular pleurisy. When first seen the condition of the patient was exceedingly bad. Great emaciation, pain, hectic fever, constant vomiting, intolerance for food, and constipation. Examination revealed the so-called abdominal tumors that mark the severe cases of this affection. It is to be noted that there was no ascites.

Treatment consisted in application of moist compresses (98° F.), deep injections of guaiacol in oil, gradually increasing amounts of raw meat and raw eggs. Patient was kept at absolute rest, but within six weeks was removed to the sea-shore. The patient lay at rest in the open air all day, and received a warm salt bath daily. This treatment was continued for fourteen months, the patient alternating between two sea-shore resorts. At the end of this time there had been a gain in weight of thirty pounds, all local signs had disappeared, the general condition excellent, appetite very good, and the patient absolutely well.

[In view of the present widespread interest in the treatment of tubercular peritonitis, this case is of special interest. It is noteworthy that an extremely severe case of tubercular peritonitis (fibro-caseous form) recovered under medical and hygienic treatment without laparotomy within fifteen months.—ED.]

Paroxysms of Whooping-Cough Treated by Pulling the Lower Jaw Downwards and Forwards.—SOBEL (*Archives of Pediatrics*, June 11, 1903) reports his results with this method of treatment, first advised by Naegeli.

During the paroxysm the operator, standing in front of the patient, places the flexed index and middle fingers against the angle of the lower jaw, both thumbs along the nose and against the upper jaw, and then pulls downwards and forwards.

If behind the patient, the operator places the flexed index and middle fingers against the angle of the jaw, the thumbs along the body, the remaining fingers beneath it, and then pulls downwards and forwards.

This method of treatment, by overcoming the glottis spasm, the main element in the paroxysm, shortens the paroxysm, and thus unquestionably makes the course of the disease milder.

Inasmuch as the maneuver can easily be taught to mothers, nurses or other attendants, its value in the treatment of pertussis becomes very great.

In ninety-six cases thus treated by the author, there was failure to shorten the paroxysm in only nine cases (9.3 per cent.).

The procedure appears to be more efficacious in older than in very young children.

While it is not claimed that this treatment should exclude other treatment, the author thinks that, in view of its absolute harmlessness and of its beneficent effects in most cases, it should form an integral part of the treatment in every case.

A New Treatment of Whooping-Cough.—KILMER (*N. Y. Med. Jour.*, June 20, 1903) advises the alternate use of antipyrine and bromide mixture and quinine. A child of two years receives sodium brom., three grains; antipyrine, one grain; syrup of ipecac, four minims, every two hours for three days; then three grains of sulphate of quinine for three days; then goes back to the first mixture again, and so on.

The new part of the treatment consists in the mechanical compression of thorax and abdomen. A stockinette band is fitted snugly over the baby, extending from axillæ to pubes, and supported by shoulder-straps. Over this a

single width of broad elastic bandage is stretched entirely around the body and sewn in place. If the vomiting be excessive this band is fitted over the abdomen; if, on the other hand, the paroxysms are especially severe, it is fitted over the thorax. In severe cases two bands may be applied. The author has had excellent results from the treatment, its only disadvantage being the occasional production of a slight eczema, which promptly disappears on removal of the bands.

Treatment of Tuberculosis in Childhood by Muscle Juice and Raw Meat.—JOSIAS and ROUX (*Gaz. des Hôp.*, May 26, 1903) report their results with this method of treatment. They believe that the treatment (used in conjunction with the hygienic measures now generally recognized as essential) offers the best outlook for tubercular cases.

No appreciable effect followed the treatment in cases of tubercular meningitis or phthisis florida.

Of eight cases of tubercular peritonitis treated, four were cured.

Diagnosis is confirmed by injection of tuberculin.

Of thirty-two cases of pulmonary tuberculosis, in all stages, twelve were cured, six benefited, one remained stationary, and fourteen died. If the cases seen in the third stage be omitted, there were sixteen cases, fourteen of which showed improvement under the treatment.

Rapid increase of weight after institution of the treatment has been shown to be a prognostic point of importance. Naturally, the incipient cases offer the best outlook.

[The amounts ordinarily given to children are 150 gm. of muscle juice and 100 gm. of raw meat daily.—ED.]

Management of Catarrhal Pneumonia in Infants.—KEREY (*Jour. Amer. Med. Ass'n*, June 20, 1903) insists upon the importance of making the child comfortable, which means increasing his powers of resistance. Fresh air must be had constantly, and the room must not be heated above 70° F.; not too much clothing should be worn, and the author objects to the use of the oiled silk jacket because it is cumbersome, uncleanly, and because it overheats the patient.

Breast-fed babies must have their time of nursing reduced one-third to one-half, the intervals remaining the same. In the bottle-fed babies the milk strength must be diluted one-third to one-half because of the reduced digestion capacity. Children from two to four years are given milk, gruels and broths. The bowels should be kept open.

Every effort should be made to allow the child to rest as much as possible, "to save every unit of the child's vitality."

The author thinks well of steam inhalation with creosote (ten drops to the quart). Inhalations should be given for thirty minutes every three hours.

Counter-irritation with old-fashioned mustard plaster (one part mustard, two parts flour) is often of value, especially if used early. Sometimes the hot mustard bath (one tablespoonful of mustard to six gallons of water, at 100° F.) answers very well to relieve intense pulmonary congestion.

Internal drug treatment is largely symptomatic. The author does not believe in the routine use of the ammonia salts, especially as they are usually given, in syrup. He prefers tartar emetic and ipecac, with small doses of Dover's powder, if necessary.

For antipyresis the author prefers sponge baths or packs. In both cases the water should be warm; at first 95° F., reduced gradually to 70°. For continuous high temperature the author prefers the continuous cold pack. Where hydrotherapy does not reduce the fever, or where it cannot be successfully carried out, a combination of caffeine, phenacetin and Dover's powder is used as an antipyretic.

Heart stimulants should be used when the pulse is very rapid or very soft and irregular. The author prefers the tincture of strophanthus. Small doses of strychnia may at times be added to advantage. Alcohol is not of much value except late in the disease, when other means fail. The author finds oxygen of decided value in many cases.

ORTHOPEDICS.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

Rational or Combined Treatment of Coxalgia.—R. FENSTAL TAYLOR (*Trans. of Am. Orth. Ass.*, Vol. 45, 1902).—Great reliance is placed upon x-ray negatives of hip disease, which the author claims are much more reliable than tuberculin for diagnostic purposes. When the focus of disease is small and well away from the joint, or when the case is far advanced and accompanied by sinuses and involvement of the whole neck, no operation is advised. But when the focus is easily distinguishable and there is moderate bone involvement, he practices erosion with the curette, thus not destroying any healthy bone and leaving the joint in the best condition for repair. Formalin in 2.5 per cent. solution is used as a disinfectant for five minutes. The wound is closed except for small gauze drain, and after six weeks of traction with recumbency, the child is allowed about with brace crutches and high shoe, wearing these for six months or a year. The author records a case of sudden death immediately after the Sayre carbolic-alcohol disinfection, which he ascribes to carbolic poisoning.

A New Method of Treatment for Fractures of the Neck of the Femur.—ROYAL WHITMAN (*Trans. of Am. Orth. Ass.*, Vol. 45, p. 338).—Fracture of the neck of the femur in childhood is not uncommon, but the rapid recovery from the injury indicates that in most instances the neck is forcibly depressed without complete separation, and that the average result, in spite of non-treatment, is far better than ordinarily obtained in adult life. In nineteen cases in children there was union, with average shortening of three-quarters of an inch. This result is far from satisfactory, as a depression of the neck, whether traumatic or otherwise, sufficient to cause even a half inch of shortening, predisposes to gradual increase of disability similar to coxa vara of the ordinary type. For this reason it is advised to break up the impaction and reduce the deformity. This is done by forcibly abducting the limbs. The upper rim of the acetabulum is used as a fulcrum, the femur as a lever, and the lower capsular ligament is relied upon to fix the head. This operation has been twice satisfactorily performed, the limb after reduction being held in extreme abduction by plaster spica. The author further suggests that this position be used in adults as well as the initial treatment of neck fractures, whether impacted or not, as it gives the only fixation which has an anterior and posterior as well as a lateral support, and it adjusts the fragments most perfectly.

The Diagnostic Value of Tuberculin in Orthopedic Surgery.—W. S. BAER and H. W. KENNARD.—Forty cases are used to base their observations upon, in private practice and in the outpatient orthopedic dispensary of the Johns Hopkins Hospital. Twenty-five gave a positive reaction and fifteen were negative, the diagnoses then obtained being verified subsequently either by observation or operation. Tuberculin is regarded by them as the best and most reliable diagnostic agent for incipient tuberculosis of bones and joints, and its proper admin-

istration is attended by no permanent harmful effects. The dosage is variable, beginning with .5 mgm., followed in two-day intervals by 2. or 4. mgm., when necessary, rarely exceeding 6. mgm. The local signs are of equal, if not greater, importance than the general reaction in bone and joint tuberculosis. Other diseases may react to tuberculin, but the evidence is not conclusive, while tuberculosis practically always reacts. The diagnosis of tuberculosis can be made earlier and with more certainty by tuberculin than by radiography, particularly in young children whose bones are not sufficiently ossified.

Two Cases of Polyarthrititis in Children.—STILL. **Remarks on Rheumatoid Arthritis.**—ROYAL WHITMAN (*Medical Record*, Vol. 63, No. 16).—Still, of London, describes a chronic joint disease observed in children, generally insidious, progressive and associated with enlargement of lymph nodes and spleen. The joints most involved were knees, wrist and spine, the smaller joints of hands—feet not being affected. Early wasting of muscles, anemia, waxy pallor, with the joint symptoms, however, were the most prominent. One case of Whitman's had all the larger joints involved, only the sterno-clavicular, fingers and toes, lower jaw and spine being free from disease, the illness coming on with the involvement of the knee, which looked clinically tubercular, but which was not, and gradually all the other joints became diseased, the course of the malady lasting over several years, finally resulting in death. Both knees were operated upon with some relief, as was one wrist, the joint being filled with a granulation tissue of low grade with some erosion of joint surfaces, but no disease of the bones. The joints were painful on motion and accompanied by contractures. The skin was so fragile late in the disease that sutures would not hold and was covered by a scaly eruption of a most obscure nature. The autopsy showed a liver three times normal size with amyloid degeneration, spleen correspondingly large and soft, kidney large, with parenchymatous nephritis: mesenteric and other lymph glands enlarged with amyloid degeneration, while thoracic organs were practically normal. The spongy portion of the long bones was uniformly dark red in color, the structure, however, firm and regular. The second case was similar in all respects, as regards the joint involvement, emaciation, abdominal enlargement, but after eighteen months he began to improve; at the time he was under daily exposure of the naked body to numerous electric lights in a hood, but his cure was apparently completed by an attack of scarlatina, and one year later he was fat, strong and active, with no trace of the disease. The disease bears a resemblance to Schueller's polyarthrititis chronica vellosa and to atrophic arthritis deformans (rheumatoid arthritis of Goldthwait). It differs from rheumatoid arthritis in that the effusion is much greater, and the freedom of involvement of the finger joints. The disease in the beginning simulates tubercular disease so closely that, until its extension to other joints, it is impossible to determine its true character.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

A Contribution to the Spinal Root Localization of the Knee Jerk, Achilles Jerk and Plantar Reflex.—BRAMWELL (*Rev. of Neurolog. and Psychiatric*, June, 1903).—The results of this study were based upon a case of very early tabes and affords definite evidence regarding the spinal root localization of the knee and Achilles jerk. Both Achilles jerks and the left knee jerk were absent, the right knee jerk being active. The plantar reflexes were present. The patient's death was

caused by pressure due to a large new growth involving the root of the left lung. The spinal cord, below the level of the third cervical, was carefully examined microscopically. The following are the conclusions: (1) Loss of the Achilles jerk may result from a lesion limited to the fifth lumbar and the first sacral posterior root. (2) Loss of the knee jerk may result from a lesion confined to the fourth and third lumbar posterior roots. (3) The afferent path of the reflex or for the plantar reflex in all probability enters the cord by a posterior root or roots, situated below the level of the first sacral.

On Neurofibromatosis.—FRAENKEL and HUNT (*Med. Record*, June 13, 1903).—Neurofibromatosis is the formation of one or more tumors in one or more cerebrospinal or sympathetic nerves. It was formerly regarded as a rare affection, and when Virchow, in 1863, called attention to it, there were only thirty cases in the literature. The tumefactions are of various sizes, from a bead to a child's head, and they vary in number from a single one to a thousand. They are met with on all nerves except the optic and olfactory. They usually arise from the endoneurium. Histologically they are made up of connective tissue elements. Three cases, one with autopsy and microscopical examination, form the basis of this paper.

CASE 1.—Compression myelitis produced by intravertebral fibroma. The most prominent symptoms were extensive motor paralysis of the upper and lower extremities, muscular twitchings and cramps, with some difficulty of respiration. In the right lower abdomen, felt under the skin, was a large boggy mass. The autopsy showed numerous tumefactions in the lumbar and cervical plexus and thickenings of various other nerves.

CASE 2.—Isolated neuromata of the posterior tibial and communicans peronei nerves.

CASE 3.—Fibroma of the peripheral nerves; no other symptoms. In conclusion the authors set forth the following points: (1) The possible diagnostic aid to be derived from the presence of skin fibromata or naevi in obscure lesions of the nervous system. (2) The chorea-form muscular twitchings observed in the first case. (3) The absence of characteristic root pain in a case of extramedullary compression of the cord. (4) The fact that neurofibromatosis is occasionally the cause of increased intravertebral or intracranial pressure. (5) The presence of neurofibromata without giving rise to neural symptoms. (6) The indications for surgical interference are given not only by direct neural symptoms, but by consideration of the fact that sometimes, although rarely, neurofibroma may assume a malignant character and undergo sarcomatous transformation. (7) That the absence of neural symptoms may be explained partly by the presence of an interfibrillary oedema and succulent myxomatous tissue within the hyperplastic fibrous tissue, thus diminishing and disturbing the pressure, and partly by the absence of a tendency for this fibromatous tissue to contract in contradistinction to inflammatory hyperplasia.

A Clinical Report of Nine Cases of Friedreich's Disease: Hereditary or Family Ataxia, So-Called, With Comments on Noteworthy Symptoms.—JOSEPH COLLINS, M. D. (*Am. Medicine*, May 30, 1903).—The disease now commonly known as Friedreich's Disease or Hereditary Ataxia, has a history that dates back more than forty years. In 1861 Friedreich presented a report of three cases of locomotor ataxia, which showed some remarkable features, particularly in regard to the time of the development of the disease and its occurrence in more than one member of the family. The most striking features of Friedreich's disease are first, its occurrence in more than one member of the family; secondly, its development in early life, usually about the time of puberty. The distinguishing clinical features of the disease are: (1) Ataxia of all purposeful movements and of station, inco-ordination due to the loss of the sense of equilibrium; (2) loss of

the tendon jerk, diminished myopathic irritability and muscular weakness, which may amount to paresis of the lower extremities; (3) deformities of the spine, usually scoliosis, lateral curvature and deformity of the feet, commonly pes cavus, with extension of the big toe; (4) nystagmus, static and dynamic; (5) disturbance of articulation and intonation; (6) features that distinguish it from tabes or locomotor ataxia, absence of lancinating pains, intactness of sensibility, normal pupillary reactions, no disturbance of vision and noninvolvement of the urogenital sphere. The author gives the histories of seven cases, with comments upon some of the unusual symptoms present. It is sometimes difficult to differentiate an atypical case from Huntington's chorea, multiple sclerosis or sclerotic disease of the brain, but on the whole the cases are of uniform character. Some of the uncommon clinical features are preservation of the tendon jerks, pas planus, manus cavus, and an uncommon complication is the Menier symptom-complex.

Hyperesthesia Unguium (Onychalgia Nervosa).—OPPENHEIM (*Monatsch. fuer Psychiatrie u. Neurol.*, No. 4, 1903).—Oppenheim calls attention to a hitherto unnoticed condition of the nails, the chief symptom of which is a remarkable sensitiveness of the nails themselves and the nail bed. He gives the history of three cases, in two of which the condition has existed from early childhood. No mention of this form of hyperesthesia is to be found in text-books on dermatology or in the special monographs on diseases of the nails. In all of the cases the patients were made aware of the condition in trimming the nails.

Active Syphilitic Manifestations in Tabes and in Dementia Paralytica.—GAUCHER (*Gaz. des Hospit.*, No. 59, 1903).—One of the objections which has always been advanced against the syphilitic or parasyphilitic origin of tabes and of dementia paralytica is the infrequency of active specific skin lesions in these two diseases. While the co-existence of the usual syphilitic lesions in tabes or dementia paralytica in the same individual would not necessarily prove a direct connection in them, yet their occurrence in a number of well-authenticated cases would necessarily be strong evidence in favor of this view. Gaucher describes two cases of this sort. In one case the symptoms of tabes followed a syphilitic infection of five years' duration. A late specific circinate erythema of the left knee was present. The second case presents a history of syphilis of ten years' duration. At the present time there are typical symptoms of dementia paralytica present together with a specific psoriasis of the left hand. The author believes that such coincidences are by no means as rare in the two parasyphilitic diseases of the nervous system here under consideration as has been heretofore supposed.

On the Presence of Albumins Coagulable by Heat in the Cerebro-Spinal Fluid of Dementia Paralytics.—GUILLIAN and PARANT (*Rev. Neurolog.*, April 30, 1903).—In a communication presented to the Society of Neurology of Paris, the authors call attention to the presence of certain coagulable albumins in the cerebro-spinal fluid of general paralytics. In a fluid drawn by spinal puncture from a normal individual there is always a certain amount of clouding by the heat test for albumin. If this globulin is precipitated by a saturated solution of magnesium sulphate and filtered, the remaining fluid will not cloud on boiling. If this same procedure is followed in a specimen of fluid drawn by spinal puncture from a case of dementia paralytica, a definite precipitate will occur in the fluid that is left after the precipitate has been filtered off. This is the reaction for which this study was undertaken. The cerebro-spinal fluid of thirty-six cases, sixteen of which were general paralytics, was examined. In all of the sixteen cases, this reaction was found and in none of the others was it present. The remaining twenty cases included various sorts of functional nervous diseases. The authors believe that this test may be of considerable diagnostic importance.

GENITO-URINARY SURGERY

IN CHARGE OF

H. McC. JOHNSON, M. D.

Treatment of Stricture of the Urethra by Massage.—BARTINA (*Ann. des Mal. des Org. Genito-Urin.*, May 15, 1903).—The author mentions the good effects Motz has obtained from massage in a large group of chronic urethritis, and discusses the pathology of chronic inflammation of the urethra, the effect of external massage upon them, and shows even in strictures, where there is a large deposit of cicatricial tissue, there is present, nevertheless, much round-celled infiltration, even deep in the tissues, which it requires external massage to alleviate. Numerous cases are reported in which this procedure has given satisfactory help. And this would seem to be a reasonable deduction, since the action of a sound passed through a stricture determines a kind of internal massage.

The author concludes by recommending external massage as a means of treatment of the chronic urethritis, which so often complicates stricture of the urethra; as a preventative means to avoid the organization of the infiltration into sclerosed tissue, and as a means of modifying the stricture itself.

Aids to Cystoscopic Practice.—VALENTINE (*N. Y. Med. J.*, June 6, 1903).—The author has had constructed a cystoscopic box phantom and a large cystoscope phantom, so that the student may familiarize himself with the cystoscopic picture and become proficient in its various manipulations before attempting the use of the instrument in the living.

Concerning Primitive and Limited Cancer of the Prostate and Its Treatment by Total Perineal Prostatectomy.—ORAISON (*Ann. des Mal. des Org. Genito-Urin.*, May 1, 1903).—The recent method of operating by total perineal prostatectomy, according to the procedure of Proust and Albarran, revives anew the question of surgical treatment of primitive and limited cancer of the prostate. His late experience in two cases of prostatic cancer has enabled the author to observe the good immediate effects of the intervention and its harmlessness, and has impelled him to make a general study upon this subject. He gives a resume of the previous attempts to relieve this condition and quotes the published cases from literature, which heretofore have been discouraging. He discusses the varieties of prostatic cancer and the methods of operation of different authors. That of Proust, which is an extra-capsular extirpation, is admirable, but that of Albarran, which is a sub-capsular enucleation, is preferable. It is by the latter method that the two cases reported were operated upon.

Cancer of the prostate is much less rare than has been thought, especially in the circumscribed form. It is here that a radical intervention is perfectly justifiable. While, unfortunately, in the present state of our knowledge we do not possess a clinical picture sufficient to be able to diagnose cancer of the prostate in the beginning, so that we might determine definitely when and where to operate, yet we should attack those cases of hypertrophy which are doubtful and which give symptoms sufficiently painful to warrant intervention; and even in more advanced cases to afford relief, we might do an enucleation, provided the disease has not passed the limit of the gland, for when this has happened it were better let alone.

Cryoscopy as an Index of Renal Insufficiency in Surgical Diseases of the Kidney.—FINKER (*Johns Hop. Hosp. Bul.*, June, 1903).—After giving the evolution of cryoscopy, and quoting the experiences and opinions as to its value of those who have written upon the subject, the author says that cryoscopy does not seem

to have come into very general use in this country. Under normal conditions the freezing point of urine varies between -0.9° and -2.0° . A freezing point above -0.9° is generally taken as indication of renal insufficiency. Physiological variations in the freezing point of normal human blood are far less than those of the urine. Normal blood has a freezing point of -0.56 below that of distilled water, with the physiological variation of from -0.55 to -0.57 . An increase of the freezing point to over -0.58 shows that renal insufficiency is present. The very slight variation in the freezing point of normal blood makes cryoscopy of the blood a considerably more valuable test than that of the urine alone.

Cryoscopy of the blood of twenty-five patients whose kidneys were normal, gave surprisingly uniform results. In those cases in which there was a pathological state of the kidney, cryoscopy of the blood gave a good estimate of its functional capacity, and cryoscopy of the separate urines from each kidney gave valuable information as to their respective conditions. The author gives in detail the methods of doing cryoscopy and of obtaining the blood for it, and says that this method of examination is simple and readily made, even by those of little experience in its use; that it is not more time-consuming than very many other methods of clinical examinations in general use; that the results of this method of examination have been determined by a large number of observers to be more reliable and accurate than those of the tests now in general use; that while this method has a limited field of usefulness, it is of decided value in cases in which its use is indicated.

Renal Decapsulation for Puerperal Eclampsia.—EDEBOHLS (*N. Y. Med. J.*, June 6, 1903).—As a natural consequence of the encouraging results obtained from renal decapsulation in other diseased conditions of the kidneys, the author has extended its use to puerperal eclampsia of renal origin.

He reports a case in which the following is an epitome:

Primipara; age, twenty-three; typhoid fever during the fourth month of pregnancy; symptoms of nephritis during the seventh month; uremia and eclamptic seizures near the end of the eighth month; five severe convulsions within sixteen hours, followed by forced delivery during the fifth convulsion; freedom from convulsions for forty-six hours after delivery; then return of convulsions; six severe convulsions not counting minor manifestations occurring in eighteen hours; decapsulation of both kidneys; no further convulsions and rapid restoration of complete health.

As the efficacy of phlebotomy in controlling uremic seizures is acknowledged, why should not the abstraction of blood directly from the kidneys, which necessarily accompanies renal decapsulation, prove still more efficacious? The author believes that in renal decapsulation we possess an additional potent resource in the treatment of puerperal eclampsia of renal origin, and suggests the extension of its use to puerperal convulsions of nephritic origin, occurring prior to the beginning of labor, which might possibly avert the necessity of inducing it.

Contribution to the Subject of Perineal Prostatectomy.—WAINWRIGHT (*Ann. Surg.*, May, 1903).—A prevesical incision to the bladder, without opening it, gives great help in doing perineal prostatectomy. In a case reported, while bluntly separating the tissues of the perineum to the prostate, the rectum was torn. The tear healed nicely under a simple purse-string suture. Failure to find an unsuspected stone at the time of operation emphasizes the importance of opening and thoroughly exploring the bladder while doing a prostatectomy.

A Contribution to the Pathology and Prognosis of the Diseases of the Bladder.—GREENE and BROOKS (*Med. News*, June 20, 1903).—After quoting the excellent pathological work which has been recently done on the bladder by Halle and Motz, and that of Ciencanowski, the authors proceed to give their own necrop-

sical observations. Out of five hundred consecutive autopsies, one hundred and seven showed marked bladder lesions. This number, while surprisingly large, by no means includes all cases exhibiting bladder disease, for all minor lesions are excluded from the list. From these examinations, as a preliminary report, they find that the most frequent cause of diseases of the bladder are lesions of the central nervous system, causing dilatation, septic processes of various varieties, and hypertrophy of the prostate. In all conditions in which the spinal cord or central nervous system is involved, frequent and early catheterization should be resorted to, to prevent the bad effects of overdistention, or the possibility of cystic rupture. Conditions of the bladder must greatly modify the prognosis in operative procedures for the relief of obstructions of the urinary flow, therefore the importance of cystoscopic and other examinations cannot be too strongly insisted upon. Hypertrophy of the bladder wall is due to four different processes, separate or combined:

- (a) Inflammatory infiltration.
- (b) Increase of the fibrous connected tissue.
- (c) Smooth muscle hyperplasia.
- (d) Infiltration by new growth.
- (e) The clinical symptoms in hypertrophy of the bladder depend on which of these factors predominate.

Results of Decapsulation of the Kidneys.—JOHNSON (*Ann. Surg.*, April, 1903).—From experiments on dogs the author finds that the kidney capsule consists of two layers, that the outer one only is removed in the operation of decapsulation, and that ultimately a fibrous investment forms about the organ after this operation.

In no case was there any considerable anastomosis between the renal and perirenal blood channels.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Modern Conception of Eczema.—J. A. FORDYCE, M. D. (*Jour. Amer. Med. Ass.*, June 13, 1903).—Dr. Fordyce chose this very important subject for his address as chairman before the section on cutaneous medicine at the last session of the American Medical Association. His remarks are based upon the most modern ideas of the cause of eczema, and after discussing these, he says: "Admitting, as we must, that the real cause in most of such inflammations is a local one, we should not overlook the importance of general conditions as contributing influences. But we must not attribute to them the sole cause of certain conditions, for we might with as good reason attribute erysipelas, furunculosis or other known local infections to nephritis or glycosuria, as to say that eczema is only due to such general causes as imperfect metabolism, gout or other morbid states." In other words, if we claim for eczema a cause that must have its seat in the skin, the tissues are prepared for its action by a lowering of their resistant power. There is little doubt, in the light of modern research, that many types of catarrhal inflammation of the skin which were formerly called idiopathic eczemas, are in reality due to the local action of the streptococcus and staphylococcus, either alone or in combination.

Notes on the Treatment of Lichen Planus.—JOSEPH ZEISLER, M. D. (*Jour. Amer. Med. Ass.*, June 13, 1903).—The writer's attitude at the present time in

the treatment of lichen planus is to resort to arsenic as the remedy of choice in the more generalized eruptions; while in the more localized or milder forms he would rather employ milder treatment. He prefers the internal administration of the drug, and uses either the Asiatic pill or Fowler's solution. With the latter preparation he begins with two drops, three times a day, and increases each dose daily by one-fourth a drop up to the point of tolerance, but rarely exceeds fifteen drops three times a day. Chiefly induced by the advice of Brocq and Jacquet, he has for the past eight years given a prominent part in the management of these cases to hydrotherapy. The patients are instructed to take, preferably during the forenoon, a tepid bath, in which they remain quietly for ten or fifteen minutes, when, by means of a hose attached to the mixer, they irrigate the region of the spinal column, beginning at the nape of the neck, with first luke-warm water and gradually quite cold water, winding up with a general sponging, and finally a half hour's rest in their bath robe. Alkalies, tonics and such remedies when indicated are used.

As to local treatment, Unna's well-known salve is used: carbolic acid, 4 per cent., and 0.02 per cent. of mercuric bichloride.

A Case of "Granulosis Rubra Nasi" (Jadassohn).—J. M. H. MACLEOD, M. D. (*British Jour. of Derm.*, June, 1903).—This disease, first described and named by Jadassohn, consists of a red, hyperemic patch on the tip to the bridge of the nose, and usually extends laterally to the middle of the alæ nasi. In Doctor Macleod's case the patch was symmetrical and faded gradually into the normal skin. Over the whole area there were numerous beads of perspiration, which gave the patch a dampened, glistening appearance. The sweat in this location gave an alkaline reaction. Over the patch were a large number of discrete macules and micro-papules, of a brownish-red tinge, rounded or acuminate in shape, and varied in size from a pin's point to a pin's head. The presence of the papules gave the patch a granular feel, hence its name. There was no infiltration. The disease is most frequent in children and may begin in infancy. It is very chronic and is associated with other vaso-motor disturbances, poor circulation, cold, clammy hands, etc. Doctor Macleod's case is in all respects typical of the disease as described by Luithlen and Jadassohn. Upon microscopical examination he found the leading changes in the corium, a dense infiltration about the capillaries, the lumen of the sweat glands were dilated and increase of cells about them. The treatment so far has not been successful. The condition seems to be an anomaly of the sweat center or a disturbance of the nerves governing the sweating of that region. The constant flow of sweat causes the hyperemia or the alkaline reaction allows the propagation of organisms which produce the mild inflammation.

Nodular Syphilides (Erythema Nodosum Syphiliticum) and Syphilitic Phlebitis.—MAX MARCUSE (*Archiv f. Dermatologie u. Syphilis*, 1902, t. lxiii, p. 3; *Annales de Derm. et de Syph.*, May, 1903).—This rare affection, often relatively grave, occupies those regions which are preferred by erythema nodosum. These lesions are generally considered as a specific exanthema; they may occur with secondary or may occupy an intermediary position. They are resorbed under the influence of specific treatment or may ulcerate. The lesion is in the subcutaneous veins and is analogous to that described by Philippson in his studies of a similar condition, but tuberculous, a phlebitis proliferans et obliterans of syphilitic origin, and, therefore, not of a classic gummatous nature. Granulation tissue of the usual type is formed with often subsequent necrobiosis.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

On Endoscopy of the Nose and Its Accessory Cavities. A New Method of Examination.—HIRSCHMANN (*Archiv fuer Laryngologie und Rhinologie*, Band 14, Heft 2).—For the past two years the author has been experimenting with Nitze cystoscope in making examinations of the nose and its accessory cavities. He found that in order to receive satisfactory results, the diameter of the shaft of the cystoscope had to be reduced to 4 mm. With an instrument of this size the writer is able to explore the entire surface of the lining membrane of the antrum of Highmore. Six colored plates are given, five of which illustrate pathological changes within the antrum, and one showing pus escaping from an ethmoidal cell.

Remarks on the Laterally Situated Adenoid Vegetations in the Nasopharynx with a Description of a New Instrument for Their Removal.—MOLLER (*Archiv fuer Ohrenheilkunde*, Band 57, Heft 3 und 4).—The author takes up the question as to whether adenoid vegetations are ever found in the fossa of Rosenmueller and on the lateral pharyngeal wall. He states that they not only occur in these regions, but sometimes extend downward on the salpingo-pharyngeal folds, that they may be seen by direct inspection. A report of nine cases is given in which these lateral growths were removed by means of Professor Mygind's specially constructed adenotome. In three of the cases the growths were examined histologically and were found to be identical with the ordinary adenoid vegetations. The writer wishes to call attention to the fact that these lateral adenoids are seen at a later period than the ordinary ones and do not show any great tendency to atrophy. The diagnosis of these growths is not always easy and can often be made only after the pharyngeal tonsil has been removed, and then only by means of careful digital and post-rhinoscopic examinations. He also states that these are the cases in which the symptoms remain unchanged after the removal of large masses of adenoids by the ordinary instruments, the lateral masses being the real cause of the symptoms. The removal of these growths can be easily accomplished by means of Professor Mygind's modification of Beckmann's adenotome.

Superheated Medicated Air in Diseases of the Ear and Nose.—BECK (*Laryngoscope*, May, 1903) gives the result of one year's experience with superheated medicated air in the treatment of certain affections of the ear and nose. He brings in an adverse report of its use in chronic catarrhal conditions of the middle ear, but considers it a great adjuvant to other accepted methods of treatment in chronic suppurative conditions. He has improved the method by which air can be applied and combined with medicinal substances, and has devised a very ingenious little air heater which produces a very hot current of air in two minutes, the temperature being regulated by a switch and the pressure by a cut-off. Among fifteen different volatile substances he found three, formalin, menthol and chloroform to have given the best results.

For the application of this method of treatment the author selected a number of affections of the ear and nose. Fourteen cases of chronic catarrhal otitis media from one to ten years' standing, all of which had been treated by the usual methods for from six weeks to six months without any improvement. The effect of the hot air treatment was that the hearing was not improved in any, the tinnitus was relieved in the majority, but made worse in three. Fourteen cases of chronic suppurative otitis media, all of more than a year's standing, were

treated with superheated formalin air, with the result that seven were cured and remained so, the longest for seven months and the shortest for three and a half months. Of the remaining seven, two were operated upon and five are still under treatment, though much improved. Four cases of acute otitis media and two cases of otitis externa were markedly benefited by the hot air applications. Three cases of acute sinusitis with evidences of pus were also greatly relieved by this method, and one case of lupus of the right ala, which had been treated for a period of six weeks by the x-rays without much improvement, was cured after eleven applications of superheated air, at a temperature of 225 degrees.

According to the author the application of this method of heated medicated air has a three-fold use:

1. It stimulates suppuration and helps to throw off pathological processes, thereby producing a healthy surface of healing. It produces epidermization more rapidly.
2. The cavity is dried and produces a poor culture nidus for bacterial development.
3. The formalin in this gaseous state is forced into all crevices and exerts its germicidal action more efficiently.

Progress in Otology in Fifty Years.—FAYETTE C. EWING (*Journal of Ophthalmology, Otology and Laryngology*, March, 1903).—In giving a resume of the progress made in otology during the past fifty years the author states that much of the vast attainment of the present day was in the possession of the otologist of fifty years ago, and that the most important discoveries made since that time consist in Meyer's discovery and elucidation of adenoids, the effect of nasal on aural parts, and the elaboration of the work of the surgeons. In the treatment of chronic suppurative conditions considerable progress has been made, but little improvement has taken place in the treatment of sclerotic conditions and diseases of the internal ear. The aurist of today appreciates better the relation of one organ to another as an etiologic factor in the production of disease, but does not know the anatomical minutia any better than the aurist of the early half of the last century. Perfection in diagnosis has been attained by the use of the tuning fork, Galton's whistle, Siegle's speculum and the otoscope. The ear has been more completely explored and the Politzer bag has aided in diagnosis and treatment.

In summing up the advances made in otology during the past fifty years the writer concludes that they almost entirely hinge upon antiseptics, pathology, bacteriology, histology, and operative technique.

On the Diseases of the Auditory Nerve Following the Abuse of Alcohol and Nicotin.—ALT (*Monatschrift fuer Ohrenheilkunde*, No. 4, 1903) states that diseases of the auditory nerve following the abuse of alcohol and tobacco are only casually mentioned in the text-books and not one case is described. He believes that these two etiologic factors in the production of diseases of the auditory nerve do not receive enough consideration. The majority of the mild cases of alcohol and nicotin-neuritis of the auditory nerve cannot be positively diagnosed, and are only diagnosed after the therapeutic effect is produced through the withdrawal of the poisons. The author believes that when there is a diminution in the hearing and nothing abnormal can be detected with the otoscope and tuning forks, the question of the patient's habits regarding the use of alcohol should be carefully gone into.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Angioid Streaks of the Retina.—W. T. LISTER (*Ophthalmic Review*, June, 1903).—In the condition known as *Angioid streaks of the retina*, the streaks, which lie external to the retinal vessels, appear as colored, irregular branching lines. "The disease is binocular and vision varies considerably in different cases."

Ophthalmoscopically, the streaks radiate from a band surrounding the disk. They are sharply defined, often branch and anastomose, and do not correspond in their course to the ramifications of the retinal or choroidal vessels. Their color varies from red to brown or even grey. They are sometimes accompanied by whitish "border-bands." Retinal hemorrhages may or may not be present.

The pathology is still unsettled. According to one view, the streaks originate from retinal hemorrhages, the blood corpuscles collected into lines by the tissue currents, the pigment being hematogenous. Another hypothesis is that the streaks are due to some chronic form of retinitis. Still another is that they are congenital.

Two specimens examined by the writer seem to throw some light on the subject. The first was an eye blind as the result of irido-cyclitis and secondary glaucoma following extraction. The retina was degenerated and presented pale and pigmented streaks, which lay external to the retinal blood vessels. Corresponding to the first marked streak were granular and cellular deposits containing blood vessels. A vessel could be traced from the ciliary body to the retina. The second case was an eye staphylomatous from infancy. The retina showed pigmentation similar to that of retinitis pigmentosa, and also in *branching streaks*, one of which passed to the disc margin. Microscopically, the retina was atrophic and the retinal arteries showed calcareous degeneration. Newly formed blood vessels were situated in the external layers and corresponded in position to the pigmented streaks. Their walls were pigmented and had undergone calcareous degeneration.

Briefly, the two cases exhibited pigmented branching streaks associated with newly formed blood vessels, probably derived, in one case, from the vessels of the ciliary body, and in the other from those of the optic nerve. The writer would seem to be fairly justified in assuming that angioid streaks, although belonging to a totally different class of cases from that of the specimens, are also associated with the formation of new vessels in the retina. The chain of pathologic events would seem to be as follows: Vessels penetrate into a chronically inflamed retina (just as they make their way into exudate), become pigmented and undergo calcareous degeneration. Retinal hemorrhages come, in all likelihood, from these newly formed vessels. Cases in which vision is normal are probably due to prenatal changes prior to the flattening out of the retina, the internal layers thus escaping injury.

Primary Sarcoma of the Cornea.—SENEFE and VILLARD (*Ann. d'Oculist.*, April, 1903).—The writers, in an extensive search of the literature, have been able to find but six authentic cases—*i. e.*, confirmed by histologic examination—of primary sarcoma of the cornea. In consequence, the clinical and pathologic history of this condition is poorly known.

The patient was a male, aged sixty-five. Fifteen years prior to coming under observation a pinkish growth about the size of a millet seed appeared on the right cornea, accompanied by intense conjunctival hyperemia. Under treatment the inflammation completely subsided, and the eye remained quiet for four years.

Recurrence of inflammation and pain led to the attempted destruction of the growth by galvano-cautery. The cauterization was not only not successful, but gave a new impetus to the growth, which soon covered the pupillary space. Since then the tumor had grown slowly, but quietly.

The cornea was converted into a pink, fleshy mass of rounded, irregular contour. The bulbar conjunctiva was excessively vascular, but appeared not to be involved in the new growth. The patient complained of orbital and preorbital pain.

Microscopically the tissue was formed by a network of bundles of connective tissue fibers separated by fusiform and round cells.

Of interest was the co-existence of an epithelioma of the lower lip, which was removed by operation one year prior to the enucleation of the eye. The points emphasized by the writers are: (1) The slow evolution of the tumor. (2) The co-existence of carcinoma. (3) The danger of cauterization.

Report of Cases of Extensive Symblepharon and of Shrunken and Obliterated Cul-de-Sacs Relieved by Skin Grafting, With Description of the Operation.—H. A. WOODRUFF (*Annals of Ophthalm.*, April, 1903).—Woodruff's procedure is as follows: The lid is freed from its attachment to the globe and the cul-de-sac enlarged as much as possible. Pseudo-ptyerygia, if present, are dissected from the cornea, cicatricial bands are removed *in toto*. A block of sheet tin is cut and filed to fit exactly the cul-de-sac. Four holes are made in the tin, two at the outer and two at the inner angle of the plate, to correspond with the lid margin. A Thiersch graft, with raw surfaces external, is folded over the lower border of the plate, which is pushed down to the trough of the cul-de-sac and sutured to the lid margin.

The operation, while not ideal, is "the best up to date." The following advantages are claimed by the use of the plate: (1) It enables one to place the graft at once in the position wanted. (2) It holds it down in the bottom of the cul-de-sac, preventing reunion of the raw surfaces. (3) It insures accurate approximation and rest.

Three Observations of Retraction Movements of the Globe (Nystagmus Retractorius).—KOEBER (*La Clin. Ophthalm.*, May 10, 1903).—CASE 1.—Ocular trouble began with divergence of the left eye, accompanied by diminution of vision. Later vision of the right eye decreased, and diplopia appeared.

The symptom group comprised: symmetrical paresis of the upward rotators of the globe, paresis of associated lateral movements, and reflex paralysis of the pupils. On looking strongly up marked retraction movements of the globe appeared, accompanied by contraction of the orbicularis and of the nostrils.

The character of the diplopia indicated a paresis of the right superior rectus and the left superior oblique. The patient was neurasthenic, with increased tendon reflex. Lea has shown that irritation of the medulla produces retraction movements of the globe and reflex pupillary paralysis in the cat. Koerber inclines to the belief that the condition in this case is congenital, but admits the possibility of a disseminated sclerosis or a superior chronic polio-encephalitis.

CASE 2.—Ocular trouble followed an attack of influenza. On looking up both globes were retracted, the left rather more than the right, and there appeared a moderate mixed nystagmus. Downward excursion of the globe was limited, but equal; lateral movements normal, accompanied by slight nystagmus. Insufficiency of right internus and paresis of accommodation.

The trouble is ascribed to peripheral paresis of the eye muscles following influenza, the movements of retraction being due to abnormal and excessive innervation of the superior recti muscles on attempting to look up strongly.

CASE 3.—In this case a cicatricial band united the conjunctiva to an old atrophic globe in such a manner that retraction movements appeared in the stump when the patient looked down and out.

BOOK REVIEWS.

DIE SYPHILIS IN DER SCHWANGERSCHAFT. Von DR. BERNHARD ROSINSKI, Docent der Gynaekologie in Koenigsberg. Mit 7 chromolithographischen Tafeln und 17 in den Text gedruckten Abbildungen. Verlag von Ferdinand Enke in Stuttgart. 1903. Price, \$2.50.

This monograph of 206 pages deals in a most exhaustive way with the influence of syphilis of the parents upon their offspring. The problem involved is one of extreme practical, scientific and sociologic interest, and for centuries passed has always held a rather prominent position in medical writing. The author bases his deductions upon a careful study of the literature and an extensive personal experience gained as obstetrician of one of the foremost German university clinics. He does not believe in a typical permeability of the placenta for the syphilitic virus, as assumed by some writers. He illustrates with the descriptions of cases the fact that latent syphilis of one of the parents might be transmitted to the child without the infection of the other parent. A considerable part of the volume is devoted to the diagnosis and therapy of congenital syphilis in the offspring. Three to five years after the infection are considered the shortest time for the permission of marriage, in which case, however, a course of inunctions should be administered immediately before marriage. No man who ever had a syphilitic infection can be assured of healthy offspring.

These are but a few of the author's interesting conclusions, and only cited to prove that this volume deals with the question of congenital syphilis in all its various aspects. A number of excellent pathologic-anatomic illustrations greatly enhance the value of this admirable book.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT. FESTSCHRIFT ZUM 50. STIFTUNGSFEST. Verlag von J. F. Lehmann. Muenchen. 1903. G. E. Stechert, New York, Agent.

This little book, issued as a Festschrift in commemoration of the fiftieth anniversary of the *Muenchener Medizinische Wochenschrift*, gives a brief history of the most successful medical weekly in German language. We trust that all our readers are familiar with the name of this publication. There is hardly a number of the *INTERSTATE* that does not bring at least one abstract of an article published in this celebrated contemporary.

UEBER DIE BERECHTIGUNG DER VERNICHTUNG DES KINDLICHEN LEBENS ZUR RETTUNG DER MUTTER. Von DR. MED. FRITZ SIPPEL. Gekroente Preisschrift. Verlag von Franz Pietzker, Tuebingen. Price, Mks. 6. G. E. Stechert, New York.

The right of destroying the fetal life in order to save the mother is a problem that has held the attention of physicians, lawyers and moralists for many centuries. In 1899 the medical department of the University of Tuebingen offered a prize for the best essay dealing with this intricate question from an obstetrical, medico-legal and ethical point of view. The prize was awarded Dr. F. Sippel of Stuttgart, author of the volume of 223 pages now before us. It would be impossible to convey within the frame of a necessarily short review an idea of the wealth of interesting historical facts, of striking legal and especially religious discussions recorded in this book. We will at this occasion limit ourselves to the statement that this book is in our opinion a literary production of unusual importance and interest, and shall be glad at some later date to enter in further details in the editorial department of this Journal. We would heartily recommend a translation of this volume into English.

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ORIGINAL ARTICLES.

REMARKS ON CANCER OF THE PROSTATE AND THE SELECTION OF CASES FOR SUPRAPUBIC PROSTATECTOMY.

BY REGINALD HARRISON, F. R. C. S.,

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I propose offering a few remarks on the subject of prostatectomy, and will commence by mentioning a case which may be regarded as a typical one of its kind.

Sixteen months have now elapsed since the operation on this case, during which period he has been actively employed earning his living. Thus you may judge as to the permanent results which we may hope to obtain in well-selected cases after this operation. The patient at the time of operation was sixty-seven years of age. He has been under my notice since 1899, when I performed vasectomy for him for enlargement of the prostate. At this time the enlargement had made considerable advance; he was entirely dependent on the catheter and had been so for some time, and this greatly interfered with his work as a compositor and seriously injured his health by preventing him having more continuous sleep and rest. The case proved too far advanced for vasectomy, and the relief he obtained from this operation was insufficient.

On February 5, 1902, after examining his prostate and bladder with the cystoscope, I performed suprapubic cystotomy for him, and enucleated with my finger two large lateral masses with the prostatic urethra between them. The total weight was five ounces. The patient made an uninterrupted recovery; the function of the bladder has been completely restored and the use of the catheter discarded since the day the operation was performed. As to its selection and results, this case will serve as a text upon which I may base a few remarks on the subject of prostatectomy generally. If the conditions could always be secured as they existed in this instance, the operation of prostatectomy would be attended with very little risk, whilst the results would be uniformly good. In the study of the various forms and structures the enlarged prostate presents will be found the key to the application of operative surgery to this part.

The first question I would raise is relative to malignant disease of the prostate. Is it common or not? and what should be our attitude toward it? My belief is that carcinoma of the prostate is far more common than we have been led to think. In performing over one hundred vasectomies on different persons for enlargement of the prostate, the operation failed to benefit the patient in several instances for the reason that the growth proved to be carcinomatous.

And this leads me to consider how we are to recognize this state and thus to avoid attempting useless prostatectomies. In the early stage there is consid-

erable difficulty in doing this. Carcinoma of the prostate is not infrequently met with in younger persons than in the ordinary forms of prostatic enlargement or adenoma. Cancer of the prostate may occur at or about the age of fifty, and in this respect corresponds with carcinoma of the female breast. It is usually associated with considerable lumbar and sciatic pains. Later on it involves more or less of the chain of glands in the groin, including the femoral, which it indurates. Examination by the rectum not only finds the gland of stony hardness, but of marked fixidity on pressure. Slight hemorrhages are occasional, but serious alterations in the character of the urine and obstruction to catheterism are often delayed. Loss of flesh is usually noted. These are the ordinary symptoms of carcinoma of the prostate.

In several instances I have seen, where the diagnosis was verified by microscopical examination, the disease was marked by slow progress and the slightness of the local symptoms that were present throughout. It appeared to prove fatal by the general decay that was induced, rather than by any interference it occasioned with the function of micturition, thus contrasting with advancing forms of ordinary prostatic hypertrophy.

On the other hand, the adenomatous prostate, which often assumes considerable dimensions and is best suited for treatment by prostatectomy, presents very different local conditions. When examined by the finger in the rectum, there is a feeling of less fixidity about it relative to the pelvis. The bowel is freely movable over it. Though firm and bossy to the touch, it is wanting in that feeling of stony hardness which is so characteristic of the carcinomatous prostate.

Where an operation is contemplated, no examination for the purpose of diagnosis can be considered complete without the use of the electric cystoscope. Upon this often turns whether a prostatectomy should be undertaken at all, or whether the case permits of the substitution of a more limited proceeding, as will be illustrated later on. As viewed by the cystoscope, the differences between hypertrophy and carcinoma may thus be stated.

Carcinoma of the prostate, in by far the greater proportion of cases, is of a hard and slow-growing nature, closely resembling scirrhus of the breast, both microscopically and to the naked eye. As a rule, there is not very much intravesical projection of the prostate in these cases, and what there is, is of an uneven and irregular outline. On the other hand, the large, soft, adenomatous prostate presents as a rule a considerable enlargement into the bladder cavity, with a smooth rounded surface. The most general arrangement of these adenomatous masses are these:

1. As a collar-like general enlargement of the prostatic ring encircling the prostatic portion of the urethra.

2. As an enlargement of the two lateral lobes squeezing and flattening the urethra from side to side, the greatest diameter of that passage thus becoming vertical.

3. An enlargement of the posterior or middle lobe, either as a sessile rounded swelling under the mucous membrane of the apex of the trigone, or with a thick pedicle closely resembling a fibro-papilloma in appearance.

4. Or, there may be a combination of any or all of the preceding varieties.

It is thus obvious that the cystoscopic appearance of the adenomatous prostate varies much, according to the direction of the growth. Usually the contour

can be made out fairly accurately, and the observer can say that he has to deal with a lateral lobe enlargement, a collar-like enlargement with projecting middle lobe, or an enlargement mainly of a pedunculated nature. The importance of this is obvious, for in the last mentioned case a simple twisting off of the pedunculated middle lobe would be sufficient to relieve all symptoms, and is a less serious procedure than removing the whole of the enlarged gland. It should also be noted that the mucous membrane covering the large adenomatous masses is often of a peculiarly glistening character, and sometimes presents little cyst-like swellings, which, when viewed in profile, are semi-translucent. I have not observed this appearance in cases which eventually turned out to be carcinoma.

I am laying considerable stress on the importance of recognizing carcinoma or cancer of the prostate when it is the cause of the enlargement and distinguishing it from ordinary hypertrophy or adenoma, for the reason that it may be little short of a calamity to submit a person to a prostatectomy should the enlargement eventually turn out to be of a malignant nature without the surgeon knowing it. Formerly it was not a matter of so much importance, when the catheter and the irrigating syringe represented the mechanisms commonly employed in the treatment of prostatic obstruction, for to this extent malignant and non-malignant growths might be treated on almost identical lines. At the present time these conditions are changed, and now that the prostate is approached operatively, much on the same principle as the breast and other organs of the body, it is of the first importance that we should recognize beforehand the precise nature of the enlargement we have to deal with.

I have within the last two years practiced prostatectomy in two cases which speedily proved to be carcinomatous. I think such instances should not pass without notice in relation to the subject I am now dealing with, and I will, therefore, briefly give some particulars and show what was removed.

The first case was that of a patient aged sixty-four, whom I saw in 1901. He complained of frequency of micturition both by day and night, and occasionally involuntary dribbling. A catheter had been passed before I saw him, but there was no residual urine. It was, therefore, clear that the frequency of micturition was not due to retained urine, but to some other cause of irritation. The patient's history pointed to previous attacks of renal colic, for which he had been under treatment at Carlsbad. The last attack of renal colic was two and a half years before I saw him. He had passed uric acid gravel in the urine, but not stone. Examination by the rectum showed the prostate to be extremely hard, particularly at one point, where it gave the sensation as if a stone was impacted there. Further, the patient complained of dull aching about the buttocks and thighs. The muscles were flabby, and he was losing flesh. Frequency of micturition disturbed his rest and distressed him both by day and night. As there was no residual urine to draw off, the catheter was useless so far as this symptom was concerned.

Later on some difficulty arising out of the increasing size and hardness of the prostate occurred, and the use of the catheter then became necessary. Occasionally a few drops of blood were passed. I was not able at that time to detect any enlarged glands, either in the groins or femoral regions. The patient became very anxious about his condition, and, having heard of cases where the

prostate had been successfully removed, he was desirous, other measures failing, of submitting to this operation.

I gave it as my opinion that the case was an unfavorable one for prostatectomy, as it was not unlikely the growth would recur, and there was no guarantee that the whole of the disease could be removed, as is the case with adenomas involving this part.

On the other hand, the patient urged the pain and frequency which attended the introduction of the catheter and the uselessness of all the means that had hitherto been employed to relieve him. I could not absolutely deny the possibility of the growth proving to be one of those densely fibrous prostates which are occasionally met with, but in my judgment the weight of evidence was against this.

However, at the request of the patient, an attempt was made to extirpate the gland by the suprapubic route. I felt to some extent justified in doing this, for the reason that it was evident no long time could elapse before it would be necessary to open the bladder for the purpose of allowing the urine to escape. The prostatic urethra was rapidly becoming blocked up by the invading growth, and catheterism would soon be impossible. Prostatectomy was, therefore, performed in February, 1902, four months after the patient had been under my observation. The prostatic mass could not be enucleated entire with the finger, and had to be removed in several portions in this way.

The progress of the case was disappointing. Though the patient received immediate relief by the freedom with which the urine escaped by the open wound and he got rid of the distress connected with catheterism practiced under great difficulty, the growth within three or four weeks of the operation returned in the original site. It then became necessary to fit a permanent drain pipe in the suprapubic opening which enabled the patient to pass urine painlessly during the remainder of his life. The prostatectomy, however, proved useless and the patient died from the recurrence of cancer in the part four months after the operation which had been undertaken for its removal. Secondary growth manifested itself in the spine about the ninth and tenth dorsal vertebræ. On microscopical examination the growth proved to be of a mixed character. The periphery of the mass was adenomatous whilst the center was carcinomatous. The growth cut like scirrhus of the breast and yielded typical "cancer juice" on scraping. Mr. Watson Cheyne saw the patient in consultation with me.

The second case was that of a professional man, aged 61, who consulted me in April, 1901, for frequency of micturition. As in the preceding case, the use of a catheter indicated that there was no residual urine in the bladder to account for this symptom and that some other cause for it was to be sought. The prostate was examined per rectum and it was found to be large and hard. It was noted, however, that the rectum was freely movable over it and that the growth was not unduly fixed within the pelvis. I did not see the patient again till January, 1902, when the symptoms had become more urgent. The frequency of micturition had greatly increased and with this a necessity for the use of the catheter.

These symptoms were so urgent that on January 5th, suprapubic prostatectomy was performed. What was apparently a fibro-adenoma of the prostate was enucleated with some difficulty in two pieces by the finger. The bladder had evidently for some time been immensely distended. The mouths of the

ureteral orifices were so large that they would each admit the tip of the forefinger. The naked eye appearance of the growth was that of an adenoma which the first microscopical examination supported. A further examination which included a complete section of the mass removed, unmistakably indicated its carcinomatous nature, as in the previous case.

Early in April, 1892, this patient sailed for the cape in a professional capacity, apparently in excellent health, and passing urine quite naturally. About four months after operation he had one or two slight attacks of haematuria which were evidently connected with recurrence at the original site. He was able, however, to complete two more voyages out and home when he returned to this country with the abdominal cicatrix and contiguous glands largely involved in carcinoma and with the scrotum and legs much edematous. This has all taken place within the course of sixteen months.

During the last few months my attention has been called to several instances of prostatic enlargement which should be included with those I have just mentioned. They are not cases which should be submitted to prostatectomy. At all events, the prospect of recurrence should have full consideration.

But though a deliberate prostatectomy may not be advisable in cases of this kind, there can be no doubt that carcinoma of the prostate often sooner or later leads to conditions where operative interference is called for—I refer more particularly to the effects of obstruction so caused upon the contents of the bladder. A suprapubic opening may give immense relief to the patient whose bladder is distended with clots or foul urine. This is a substitute for a catheter which may be advantageously utilized.

I would like to say a few words in reference to some modern developments relative to the treatment of certain inoperable forms of prostatic obstruction. I refer to those instances where the enlargement is presumably of a cancerous nature. It is a painful thing for a surgeon to say to a patient, "I cannot advise the removal of your enlarged prostate for the reason that it is probably malignant." "Is there nothing you can offer?" is probably the rejoinder to this. Within the last few months attention has been directed to the use of the Roentgen rays and high frequency currents in some of these inoperable cases of prostatic carcinoma to which I am referring. This is ground upon which I would tread with much caution. Interest was first drawn to this subject by some useful papers on the X-rays and the Finsen light in connection with the treatment of lupus and other semi-malignant forms of ulceration. At the present time I have two cases of malignant disease of the prostate, or what I take to be such, under daily treatment by means of these agencies. In alleviating pain and in apparently influencing the further development of these growths, as judged by the patient's sensations, physical condition, and examination of the part with the finger, I am favorably impressed by what I have seen. The process is a painless one, and will be continued on the ground that it appears to have contributed to the comfort of the patients. It seems impossible that so powerful an agency can be brought in contact even momentarily with living tissues without influencing their nutrition. Whether for good or evil, or for neither, in instances such as these has yet to be determined. I think, however, from what I have seen, it is worth a trial—and this it is having.

To Revert: I opened these remarks by illustrating what may be regarded as the total enucleation of the contents of the prostatic capsule. I will now consider some cases where partial prostatectomy may be substituted.

If we study a number of specimens of enlarged prostates, we shall find in a certain proportion that the obstruction is occasioned by a limited portion of the gland which has become hypertrophied or excessive. The most common form of this variety is where the floor of the gland becomes pendulous and by blocking micturition renders the natural escape of urine as impossible as if the orifice of the bladder were commanded by what is known in mechanics as a ball valve. In all other respects these prostates are naturally disposed.

Let me illustrate what I mean by a case.

In April, 1899, I saw a gentleman aged fifty-five, at the request of Sir Douglas Powell, who was suffering from stone in the bladder. I performed litholapaxy upon him and removed a stone composed of oxalates and phosphates weighing over half an ounce. I should mention that he had been using his catheter for twelve months and had been absolutely dependent upon it for three weeks before the operation. The patient made a rapid recovery from the operation, though he was never able to dispense with the use of the catheter afterwards.

In August of the same year the operation of litholapaxy had to be repeated, as in this short interval another stone had formed which was also successfully removed in the same way. On this occasion the stone was formed of phosphates which is the usual kind in the case of recurrences. Again he made a speedy recovery so far as the removal of the stone was concerned. The patient, however, still remained dependent on the use of the catheter. By September, 1900, he had formed other stones which were removed in a like manner. He still remained dependent on the use of the catheter. For the fourth time, in February, 1901, he again applied to me with symptoms of stone. Feeling sure that this rapid recurrence of stone was not due to any fault in the operation or to any want of care on the part of the patient or his medical attendant, before proceeding to remove the stones I examined the patient with the cystoscope.

The view thus obtained of the interior of the bladder was extremely interesting. There was no enlargement of the lateral lobes of the prostate, but the third or middle lobe was prolonged and took the form of a pendulous mass which projected upwards into the bladder, and evidently played the part of a ball valve. Thus the urine was mechanically prevented escaping from the bladder, except when the catheter was used, and being allowed to decompose, the formation of phosphatic stones necessarily followed. I should add that under cover of the projecting lobe of prostate a portion of two calculi were seen by the cystoscope. This condition at once explained how these stones were formed, and I decided upon removing that portion of the prostate which was hypertrophied as well as the stones it partially concealed. It seemed to me unnecessary to remove the entire prostate, and I therefore advised the minor operation.

This was done by opening the membranous portion of the urethra on a grooved staff, as if for median lithotomy, which enabled me to pass a pair of forceps into the bladder. Thus I seized and twisted off the polypoid excrescence of prostate. Subsequently I withdrew two calculi and introduced a temporary perineal drainage tube into the bladder. In a few days the tube was withdrawn, when the wound rapidly closed.

It is now over two years since this operation was done, the patient has had no further recurrence of stone, and what is also of great importance, he has never had occasion to use the catheter since, though he had been dependent upon

this instrument for so many years previously. It was clear in this case that the partial enlargement of the prostate which I have described was the direct cause of the recurrence of stone from which this patient suffered for so many years. Further, this case illustrates the great assistance the cystoscope affords in all cases of this kind. It showed how limited the prostatic enlargement was and how this could be removed by a very simple operation. The days are now past when the cystoscope was regarded as a toy. Every one who desires to obtain a practical knowledge of the disorders affecting the urinary tract, must make himself acquainted with it if he desires to diagnose and treat correctly the disorders of this part.

Partial operations on the prostate should be limited to such conditions as I have just illustrated. They are not to be recommended when the entire organ is more or less involved in an hypertrophy. Two instances have recently come under my attention where no permanent good followed suprapubic cystotomy and the removal of some portions of the enlargement. In one the suprapubic opening never closed, as the urine failed to escape by the natural channel, whilst in the other, though the suprapubic wound healed by the aid of a retained catheter, the patient could never dispense with the latter instrument. In the latter case I advised that an attempt should be made later on to rectify this by a more complete enucleation of the prostate that remained. This, I heard, was followed by a satisfactory result, the patient, within a month after the revised operation, obtaining full voluntary power over the act of micturition, besides other advantages.

There is another point to which I will refer in connection with the subject of entire enucleation of the prostate as now practiced.

There can be no doubt that in the large majority of these cases the prostatic urethra is more or less damaged if not entirely removed. This is evident from the examination of specimens after removal. The question has been raised, is there not some liability of what amounts to a urethral stricture occurring after a wound of this kind? I have met with an instance where there is some evidence of this being the case. It occurred in the case a gentleman sixty-seven years of age, upon whom I operated in February, 1902. The urethra was somewhat freely separated on the anterior aspect of the prostate in front of the junction with the membranous portion. The whole canal was no doubt much toughened by the very long dependence on the catheter, and by no less than eight crushing operations for stone which had preceded the prostatectomy. Since the latter operation, this patient has had some trouble in passing urine. Sometimes a good stream passed, at others no urine could be voided until after the introduction of a bougie. A good stream then immediately followed. Apparently there was an obstruction of a valvular nature which thus caused the difficulty in urinating. It could not be called a stricture, as after the hitch was overcome just at the entrance to the bladder, a No. 14 metal bougie, English gauge, passed easily. Three months after the prostatectomy I passed a urethrotome and divided what seemed to be a fibrous band or bend at the point where the hitch occurred. This completely freed the urethra for all purposes, and the patient has since had no trouble in urinating naturally with a large stream.

RINGWORM.

By WILLIAM FRICK, A. M., M. D., of Kansas City, Missouri.

The disease commonly known as ringworm was supposed, until the researches of Sabouraud, about ten years ago, to be always caused by the same fungus or vegetable parasite. About 1842 or 1843, Malmsten, of Stockholm, Sweden, discovered a fungus in ringworm to which he gave the name of "trichophyton tonsurans." This was taken up by the medical profession and the trichophyton fungus became the recognized cause of ringworm.

About the time of Malmsten's discovery, Gruby, in a communication to the "Academy of Sciences," of Paris, described a variety of fungus found on the scalp and causing bald spots to appear. He designated the disease "porrigo decalvans," and this term was used subsequently by Willan and Bateman synonymously with "alopecia areata." Hence it came to be thought that Gruby had discovered a fungus or several fungi in that disease. Now it is known that his series of observations were on ringworm of the scalp and the varieties of fungi were those of ringworm. One variety described by him was characterized by small spores, and to this he gave the name "microsporon audouini," which name is retained in modern medical literature and constitutes the small-spored variety of ringworm. The large-spored variety, which is now known as the "trichophyton fungus," he named "rhigophyton alopecia." This is the same variety discovered by Malmsten and retains the name given by him. The careful, painstaking and thorough observations of Sabouraud, of Paris, about ten years ago, proved conclusively that several varieties of the fungi cause the disease. It is even claimed by some authorities that there are two distinct species of these fungi. This question is still under discussion by men capable of handling it and will probably be definitely settled later. We need not discuss this subject here as it is of little practical importance in treating the disease. It is enough for us to know that the main division of this fungi is into the small-spored variety, known as the "microsporon audouini," and the large-spored variety, known as the "trichophyton megalosporon." These two varieties vary in the frequency of their occurrence. In some localities it is reported that the microsporon has not been found, while in the majority of places heard from it constitutes the greater number of cases. In this country, Charles J. White, of Boston, reports 52 per cent. of the cases in Boston of the small-spored type. G. W. Wende, of Buffalo, New York, found 89 per cent., and Corlett, of Cleveland, Ohio, 65 per cent. Colcott Fox, of London, reports between 80 and 90 per cent., while in Paris this variety constitutes 58 per cent. of the cases. In Italy and Buda-Pest this variety seems wholly unknown.

In my own work I have not been able to separate and keep a record of all cases, but have been convinced that a considerable majority of my cases are of the small-spored variety.

The clinical features of ringworm seem to vary with the variety of fungus present. The greatest preponderance of the small-spored variety is found in tinea tonsurans, or ringworm of the scalp in children. Charles J. White, in his article on "Ringworm as it Exists in Boston" (*Journal of Cutaneous and Genito-*

Urinary Diseases, January, 1899), says: "A ringworm of the scalp in a person over thirteen years of age is in all probability caused by a megalosporon." This simply means that in his experience the small-spored variety seldom attacks the adult scalp but is particularly a disease of childhood. Corlett, of Cleveland, Ohio, also says: "It is found only in early childhood, from two to fifteen years, being most common between five and seven years of age. It is almost entirely limited to the scalp." The latter writer also says that in his work in Cleveland he found 90 per cent. of the ringworms of the scalp to be of this variety, while only 65 per cent. of all cases were of this variety. I quote this because it seems about my own experience and shows that the usual ringworm of the scalp is of this variety. This is the disease we frequently see in epidemics in orphanages and schools. We may also have numerous cases coming from one source in crowded communities where children congregate and play together. It is the most contagious of all forms of ringworm. As ordinarily seen there exists one or several bald spots on the scalp. These spots vary in size from a split pea to a silver half dollar. They are round or oval. Sometimes several of these spots run together and thus form larger irregular shaped patches. The surface of these spots or patches is covered with small, grayish scales, described by White as ashen gray in color. A variable number of stumps of hairs may also be seen. Some of these are broken off even with the surface of the scalp while others are broken off a little distance above the surface. Some of these last may be seen surrounded by a small, grayish collarette, which proves on microscopic examination to be a mass of spores. When the scales are washed off we may find the surface of the patch slightly reddened but not highly inflamed.

The microsporon fungus is made up of spores and mycelium. Both the epithelium of the scalp and the hair is invaded. Under the microscope the affected hair is sometimes seen so completely covered with spores that there is scarcely an opportunity to see the mycelium. These spores are round or oval in shape and about two or three micro-millimeters in diameter. They are of rather uniform size, varying some but not much. The mycelium is made up of transparent and tortuous or branching threads with joints of varying length. The width of these threads is the same as the diameter of the spores. They lie along the hair shaft at times and (according to Corlett) give the hair the appearance of a nail eaten by rust. At other times the mycelium is found inside the hair. I have in my private collection a mounted specimen showing the hair completely covered with these spores, while from the end of the hair several threads of mycelium are seen stringing out from the interior of the hair. Both spores and mycelium extend into the hair follicle. This is important to know in treating the disease.

On other parts of the body the microsporon forms round or oval patches covered with the same grayish scales. Many, if not most, of these cases are infections from ringworm of the scalp and on the same patient. It is easy for the fungus to extend from the scalp to the neck and upper part of the body while the fingers are used by the patient to scratch the affected areas, because they do itch somewhat, and in this manner it is carried to other parts of the body.

The principal varieties of the trichophyton megalosporon, or large-spored ringworm, are the trichophyton megalosporon endothrix, which always attacks the interior of the hair, and the trichophyton megalosporon ectothrix, which is always found on the outside of the hair. Charles J. White, of Boston, says that

when trying to distinguish between these two varieties it is necessary to examine hairs of the lanugo type, since he has never seen the other type of hair affected. The spores are found in less abundance than in the small-spored variety and the mycelium is much more abundant. The spores are round or quadrangular with rounded corners. They are about five to seven micro-millimeters in diameter. The spores in these varieties seem to vary more than in the small-spored. The megalospora may attack people of any age. The endothrix variety is considered more superficial in its action. It gives rise to a large proportion of the cases of ringworm of the body and of the nails and of the beard without folliculitis. When the scalp is attacked the epidermis is first invaded. The hairs break off short near the scalp and the patches are larger and more irregular. There may be only a thinning of the hair in some of these patches, while in others the patch looks bare, like alopecia areata, but on close inspection the hair stumps can be seen.

The ectothrix variety is derived mainly from domestic animals—the horse, dog and cat being the principal ones. It is the inflammatory variety of ringworm. On the body it forms inflamed, deeply infiltrated circular patches with pustules and crusts. On the scalp it forms the inflamed, infiltrated, boggy patches with pustulation and oozing. On the bearded face it forms the cases of ringworm of the beard with folliculitis. Charles J. White found in his work in Boston the ectothrix variety is subdivided into a “superficial, scaling variety and the deep suppurating form.” The latter conforms to the description just given, while the superficial form does not penetrate deeply or cause any great amount of inflammation or pustulation. In order to determine positively if one of these varieties of fungus is present in any suspected case it is necessary to use the microscope. If using the Bausch & Lomb microscope, you will find the one-inch eyepiece and one-sixth objective to be sufficient to see well the spores and mycelium. Any other good microscope with magnifying diameter of 250 to 500 will do the same. Take your suspected hair and place it on a slide with enough liquor potassa to cover it, let stand for from ten minutes to half an hour according to the size of the hair. Place a cover glass over it and press it down. The liquor potassa dissolves the keratin of the hair and permits the fungus to be readily seen. If the suspected surface is on the body, take some scrapings from the edge of the patch. Place this on a slide with liquor potassa. This need not be subjected to the action of the liquor potassa so long as a hair. Ten minutes will generally be sufficient. Place a cover glass over it and press down. If permanent mounts are desired a more elaborate technic will be required. This method is only intended for temporary examinations.

Ringworm is a curable disease—either on the body or on the scalp or on the bearded face. The problem is simply one of reaching and destroying the fungus causing it. It will then be easily understood that some cases are cured more easily than others, since we know some cases are more superficial than others. On the smooth surfaces of the body the disease is soon destroyed with a good antiseptic or germ destroyer, unless of the inflammatory variety when it may be necessary to use local remedies to reduce the inflammation first. In C. H. White's work he found by accident that a very small amount of formalin destroyed the cultures he was growing. This we would expect from what we know of the properties of formalin. If we could use this drug without producing pain I believe it would be the most effective of all drugs, but I have not been

able to use it on account of the pain it produces. Other remedies will destroy the growth without causing pain of any consequence and consequently are used in preference. Iodine is used effectively as the ordinary tincture; simply painting the patches with it. Dr. Geo. T. Jackson thinks iodine is more effective if the crystals are rubbed up with goose-grease and rubbed into the ringworm patches. Mercurials are used in various preparations. The bi-chloride in solution of 1 in 500 is quite effective with some. Ammoniated mercury, one-half dram to the ounce in ointment form is good, and so is the oleate of mercury, one dram of the 10 per cent. oleate to the ounce of ointment. Other forms are also used. Shoemaker is partial to the oleate of copper. I have seen it cured by brushing quickly over with pure carbolic acid and following up at once with alcohol to prevent too much destruction of tissue.

In short, any good antiseptic will be found serviceable if it can be brought in contact with the fungus. The difficulty is in bringing your remedy in contact with the fungus. It may be necessary in some cases to epilate in order to cure, but in my experience it is not frequently necessary to do this. It is frequently necessary to be persistent with the remedy used, else there will be a failure to eradicate the disease. Perseverance and attention to the principles laid down will reward the physician by a cure in nearly all if not all cases.

CANCER OF THE OMENTUM.

BY JAMES A. MATLACK, M. D., of Prairie City, Illinois.

The recent extensive discussion through the columns of the *INTERSTATE MEDICAL JOURNAL* of the question of malignant growths of the ovary, associated with similar growths of the various abdominal viscera, prompts me to report the following case, recently under my observation:

Mrs. S., æt. sixty-three, married. Family history good; no malignant disease in any near relative. Never had any serious illness or injury, and had always enjoyed excellent health, the only infirmity being obstinate constipation of many years' standing. Up to the beginning of the present year her health had continued good. At that time her general health began to fail, and there developed a gradual swelling of the abdomen. The first physician who treated her gave her medicine for the "bloat," but assigned no definite reason therefor. I first saw her about the middle of February, at which time emaciation had progressed considerably, and marked ascites was present, but no general edema. Her general condition and appearance, with the history of rapid emaciation, immediately suggested malignant growth. There was no evidence of disease of the heart, kidneys or liver.

Paracentesis of the abdomen was performed, and about ten quarts of fluid withdrawn, an analysis of which showed it to be highly albuminous and containing blood corpuscles and large motile cells, said by some to speak for carcinoma. Palpation of the abdomen revealed nothing distinctive. Examination of the pelvis, per vaginam and rectum, revealed the presence of a rounded mass about the size of a goose egg; hard, nodulated, fixed in the pelvis, lying between the uterus and rectum, but with no apparent connection with either. A diagnosis of pelvic carcinoma was made, the supposition being that it originated

probably in the uterine appendages or perhaps in the mesentery. She was sent to a Chicago hospital. The consulting surgeon agreed with my diagnosis, but declined to operate, and she was sent back for palliative treatment. On this treatment tapping was done as often as necessary, but it soon became impossible and unnecessary because of the rapid and progressive adhesion of the mesentery, which gradually closed the peritoneal cavity from below upward. The development of this phenomenon, together with the rapid growth of a thickened and adherent mass directly under the parietes, very soon added omental carcinoma to our diagnosis, whether secondary or not being problematical. The patient gradually failed, and died in the latter part of June.

The post-mortem findings were as follows: Intestines and mesentery were matted together by adhesions and adherent to parietes. The great omentum had become a thickened mass, weighing about four pounds. Small indurated nodules were scattered through stomach wall and liver, pyloric end of stomach not involved. Uterus and rectum were normal. Between them was a cyst firmly fixed by adhesion. In the wall of the cyst were found an ovary and some small warts, which had undergone calcification. The cyst was about the size of a goose egg, and was bi-ocular, one compartment containing blood and the other serum.

Specimens were submitted to a pathologist, who reported as follows: "Sections were taken from the following areas: (1) The ovary through the corpus luteum. (2) The ovary a little way from the corpus luteum. (3) Through a small papillomatous nodule in the cyst wall. (4) Through the omentum. The omentum sections show carcinoma of the papilloma type. The small warts are commonly found in the papillary cyst adenoma of the ovary. Section two shows carcinoma of the type already alluded to in omentum report. Section one shows non-malignant ovarian tissue. The histology would suggest that this carcinoma began as a papillary cyst edema in Rosenmueller's tubes in the hilum of the ovary."

This case presents certain points of interest from a diagnostic standpoint, inasmuch as the malignant growths in the various abdominal viscera, if they existed at an early stage of the disease, were not positively discovered; and the diagnosis of carcinoma was made from the general symptoms and the presence of a pelvic tumor, which afterwards turned out to be a cyst, with only incidental malignant involvement. Where the carcinoma really began is problematical, but from all appearances it probably originated in the mesentery—the nodules in the ovary and stomach being secondary.

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EDITORIAL COMMENT.

WOLFF'S LAW.

In 1890 Wolff (1) formulated a "law" that: "Every change in the form and function of the bones, or of their function alone, is followed by certain definite changes in their internal architecture, and equally definite secondary alterations of their external conformation in accordance with mathematical laws." Previous to this the Volkman-Heuter theory of "pressure" was accepted for the development of acquired deformity, atrophy taking place where pressure was the greatest and overgrowth where it was the least, despite the adverse demonstrations of Mikulicz and Macewen.

The first corollary of Wolff's theory is that of "functional shape." (2) The external form and internal architecture are determined by function solely. The internal architecture and the external contour always correspond exactly, the latter representing mathematically simply the last curve uniting the ends of the various trajectories which make up the internal structure. "Functional pathogenesis" of deformity is the next step. Any alteration in static demands made upon the bones must be followed by proper transformations of structure, both internal and external, and as the result of these we have deformity in the narrower sense. Deformity is, therefore, to be regarded as a physiological

(1) Wolff: Gesetz d. Transform. d. Knochen, 1892.

(2) Wolff: Ueber d. Wechselbeziehungen zw. d. Form u. d. Function d. einzelnen Gebide, 1901.

adaptation of structure to pathological static requirements, therefore to pathological function.

The internal arrangement of the bone trabecular of the upper end of the femur corresponds almost exactly to Cullmann's drawing of the Fairbairn crane, a truly mathematical demonstration, which attempted to consider all of the factors entering into the demands made upon the femur.

Treiberg (3), after a careful consideration of the subject, concludes that a strictly mathematical concept of Wolff's law has not yet been justified by demonstration, as there are too many factors entering into the problem, many of which we have not as yet determined, but that, save in their mathematical aspects, the statements of Wolff's law and its corollaries may be accepted as being in agreement with observations hitherto made. Lastly, if we accept the foregoing statements of the "functional law," it does not follow that we must make use of the so-called "functional methods" in our therapeutic endeavors. They are to be chosen not from theoretical considerations only, but for reasons of expediency and practicability. Taylor in discussing this law concurs fully with Wolff, that pressure does not produce atrophy of the bone, as Lorenz has claimed, under pathologically increased or transposed burden; and also admits that functional transformation of bone must and does occur to meet the altered static demands of pressure tension and shearing strain, but he is not willing to admit that we can attribute all deformities to function alone, regardless of superimposed weight. But whether we accept this law *in toto*, there is much of truth evident, and it teaches us the importance of overcorrection in genu valgum and varum, after operation to promote bone transformations, also hyperextension in Pott's disease, and corrections of conditions such as cava vara, to strengthen weak points in the femoral neck by operation, assisted by functional conformation to meet static demands.

THE NECESSITY FOR PURE, CLEAN MILK.

In another part of this issue, in an abstract of an article on the summer diarrheas of children, there occurs the statement that improper feeding is of almost as much importance as an etiological factor in the production of these diseases, as is the actual microbic infection itself. The appalling infant mortality in our cities during the summer months still remains as one of the reproaches to our science. When we reflect that this state of affairs could be remedied in large measure, if the profession would awaken to the necessity therefor; when we remember that present conditions exist largely because of the indifference of that profession, the position becomes all the more humiliating. Recently, Bassett and Knox examined a large number of samples of milk supplied to babies suffering with summer complaint before their admission to hospital in Baltimore. This milk had an average bacterial content of over four million to 1 c.c. The New York Board of Health found in its analyses last summer many samples that ran over ten million. These are only two instances; it is not probable that the milk supply of New York and Baltimore is appreciably more contaminated than that of other large cities.

On the other hand, it has been proved repeatedly that the number of cases of summer complaint diminishes in any community in direct proportion to the

(3) Trans. Am. Orth. Assoc., 1902.

purity of the milk supply. There is still much discussion as to the relative superiority of sterilized and pasteurized milk; there can be no question that clean milk is better than either. The Milk Commission of New York, Boston, Philadelphia, Newark, etc., have shown that clean milk can be produced, sold at a reasonable price, and still be a commercially profitable product. It is high time for the profession at large to interest itself in this vitally important matter, to stimulate the laity, by a campaign of education, to a knowledge of the dangers of impure milk, and of the possibility of remedying the evil.

The present agitation concerning the prevention of this spread of tuberculosis by sanitary precautions is already beginning to bear fruit. Does it not seem that we might well bend our energies to the solution of this other problem, surely serious enough, especially since we know by a few shining examples that success will attend our efforts?

ON THE BIOLOGICAL RELATIONSHIP BETWEEN THE EPIDERMIS AND CONNECTIVE TISSUE.

Kromayer has taken a position in regard to the relationship of the epidermis and connective tissue which is revolutionary. In a paper in the *Archiv. f. Dermat. u. Syph.*, October, 1902, he states his position, namely, his belief that the basal layer of the epidermis not only produces the different layers of the epidermis, but the fibres and cells of the corium, which view if accepted would upset all the prevalent theories of pathology and embryology.

J. H. M. Macleod, of England, discusses this hypothesis of Kromayer's in the July issue of the *British Journal of Dermatology*. He says "it is impossible to treat an hypothesis such as this one without the greatest respect, however far-fetched it may seem, since it comes from the pen of so distinguished an histologist as Kromayer; still it is far from being convincing."

Unna, many years ago, evolved the idea that in certain moles and similar growths the infiltrating cells were derived from the epidermis, which view has been accepted by Gilchrist and others; among them Kromayer, who now goes so far as to claim that the cells of the corium itself is derived from the same source.

From his description of his vesicular cells it does seem to the writer that his views have been obtained from a biased source of reasoning. Yet, of course, Kromayer's work must be gone over step by step by one very familiar with perfect technique before an opinion can be expressed. No one is in a position to criticize the conclusions of such an observer as the author of these revolutionary views, except he be familiar with the various biologic and histo-chemic methods; therefore, it is to be hoped that Kromayer's remarkable paper will stimulate these workers to an extensive and critical review of this subject. The pioneer work of Unna in the find of 'selective staining has developed many revolutionary ideas in the pathology of the skin, most of which have been accepted.

It is to that master of histo-chemic technique that we are indebted for most of the great strides of the last decade in the differentiation of cells, thereby rendering the tracing of their source more possible.

Whether the views of Kromayer prove correct or not, his work displays a fine example of the study of histologic detail.

EMILE JAVAL AND "ENTRE AVEUGLES."

A pathetic interest attaches to a little book—"Entre Aveugles"—which has recently appeared from the pen of Dr. Emile Javal, the eminent French ophthalmic surgeon. As is generally known, Dr. Javal became suddenly totally blind, about three years ago, as the result of recurrent attacks of glaucoma. In a paper known to ophthalmologists the world over, Dr. Javal has described, in a beautifully simple and direct way, the history of his disease and the methods adopted for its relief. One who has read this "*Auto-Observation de Glaucome*"—the history of a malignant case of glaucoma utterly rebellious to every known form of treatment—cannot but look with reverence at the splendid scientific spirit of the man who, even during his moments of outrageous suffering, noted clearly the passing phases of the disease. Are we not prone to forget that such bits of knowledge can only be born of bitterest human travail? Must we not acknowledge that the silent, unflinching, dogged courage which enables a human being to ignore cruel suffering in order that the sum of human knowledge may be increased is, indeed, one of the finest things in the world? All honor, then, and reverence to Dr. Javal!

When, finally, the long struggle was over, and Dr. Javal realized that he was forever shut out from the world of light, he set about to discover how he might modify his daily life to conform to the new conditions. Much to his surprise, he was unable to find a systematic arrangement of facts bearing upon the different phases of the subject. With a view to bridging the gap, Dr. Javal has devoted his energy during the past three years toward discovering means whereby he might continue to lead an active existence. Moreover, he has sought out intelligent blind people of all countries and learned from them their devices. The results of his personal experiences and researches are embodied in a charming little book, which breathes from every page the noble spirit of a great man.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Fatal Cachexia Without a Demonstrable Anatomical Cause.—GRAWITZ (*Berliner Klinische Wochenschrift*, Nos. 25, 26, 1903).—Cases are often encountered in which the clinical symptoms and the anatomical findings do not bear the anticipated relationship to one another. Such is the case in two cases reported by the writer. The first one was a man forty-nine years of age. He had during the previous year, on account of pronounced weakness, been compelled to give up his work. This condition lasted several months, after which time it disappeared. The man was again able to resume his work for a time, when the same symptoms returned even more pronounced than at the previous time. The symptoms now were weakness, syncope and loss of appetite. Careful examination failed to reveal any condition which might explain the symptoms present. Repeated examinations, however, revealed a total anacidity. To make an exact diagnosis was impossible from the course of the disease. Neoplasm, Addison's disease and pernicious anemia were considered. The latter two, however, after careful study, could be excluded. The treatment consisted of nutritive enemata, hydrochloric acid and small doses of quinine and iron.

Post-mortem findings did not show any condition which might explain the clinical symptoms or the outcome of the disease. The general impression made by the case was one of a chronic intoxication. That it was not an ectogenic poison could easily be confirmed. The only reason which might account for an endogenic poison was an absence of hydrochloric acid in the stomach. The question arises whether or not we find a chronic poisoning with this as its etiology. Grawitz believes that two possibilities exist: first, the absence of the antibacterial power if hydrochloric acid may be the source of the poison; and, second, the state of proteid molecules, which on account of the anacidity are absorbed without reaching the physiological end-products. The writer is inclined to accept the possibility of both and thinks that an intoxication may exist as a result of a chronic anacidity. The fact that all cases of anacidity do not suffer from an intoxication, does not weaken the possibility. The second case presented symptoms very similar to the first. The stomach analysis showed an anacidity at first, but after a few days free hydrochloric acid was present. In this case attention was given chiefly to the nourishment of the patient. Nutritive enema and lavage every second day with normal salt and fluid nourishment poured through the tube. Internal administration of hydrochloric acid. With this treatment the patient improved greatly and rapidly.

The practical consequence for the treatment of these cases is clear. In such cases we must not be satisfied with the simple stomach analysis, but must at once attempt to overcome the condition existing by treatment, namely, the lavage together with the administration of hydrochloric acid. At first it is well to employ enema followed by nutritive enema. Antiseptic substances, as calomel and salol are not to be employed, as they act only in the intestines; the same result will be accomplished by large amount of fluid.

A Case of Severe Intestinal Auto-Intoxication.—STUERLY (*Berliner Klinische Wochenschrift*, No. 23, 1903).—According to the writer, it is only during recent

years that the etiological value of fermentative processes in the gastro-intestinal tract as a means of explaining severe nervous conditions has been appreciated.

This subject received special consideration at the Internal Medical Congress of 1898. At this time, those cases in which most pronounced cerebral disturbances had been observed, were given special attention. Epileptoid attacks, unconsciousness, severe headache, feeling of fear and acute psychoses had all been observed and were undoubtedly of intestinal origin. Attempts up to the present day to isolate a special toxin have given negative results. The urine shows the presence of aceto-acetic acid and acetone, which may be considered as the end-results of the fermentative processes.

The case reported showed pseudo-meningeal symptoms due to the gastric disturbance and obstipation. Of special interest was the bradycardia which existed twelve days. The patient was a boy of seventeen years. The condition started with severe colic after eating raspberry ice. A few days later, after the patient had recovered from this attack, he ate an abundance of string beans, and developed a similar attack. At the time of his admission to the hospital, which was four days after the initial attack, he was in an unconscious state and having occasional clonic convulsions. The pupils were dilated and did not react to light; the urine showed the presence of albumin and indican, but no aceto-acetic acid or acetone. Conditions continued thus until the seventh day, when calomel and high rectal injections were employed. From this time the patient continued to improve and ultimately recovered. The writer thinks there is no doubt that the gastro-intestinal disturbance was the prime cause of the cerebral symptoms.

The Becquerel Ray and Its Physiologic-Pathologic Significance.—LONDON (*Berliner Klinische Wochenschrift*) carried out experiments with the above rays, utilizing thirty milligrams of radium bromide enclosed in a gutta-percha and metal box.

Ordinarily if a piece of sealing-wax is rapidly rubbed over flannel it will pick up a thin piece of paper. If it is passed over the radium box after being rubbed it will no longer pick up the paper.

Radium will kill small animals at some distance. Mice were used in these experiments. Three or four mice were placed in small, glass cages; on top of the one the radium box was placed, while the control animals were placed in a similar cage near by, kept under similar conditions but not in contact with the radium box. Those exposed to radium rays showed signs of sickness on the third day and died on the fourth or fifth. As soon as the first signs of sickness appeared the box of radium was removed. The first signs of disease manifested themselves in redness of the ears, blinking, state of sleepiness, disinclination to eat, weakness, irritability of the muscles, etc. Finally the breathing became very slow, the animal became comatose and died. Many of the organs showed pathological changes.

The influence of radium upon the blind was quite positive. Those whose eyes were very slightly sensitive to light, became quite sensitive when the radium was placed near the eyes, even in day-light.

Some, whose eyes took cognizance of light and light shadows, but could not detect objects, readily recognized objects when placed upon a screen lighted by radium rays.

With the aid of radium it is possible to make microscopic examinations in a dark room. One needs only to light up the field of vision with a screen.

If examined under the microscope, powdered radium appears as small illuminating bodies upon a black background.

A New Symptom of Rachitis.—NEURATH (*Wiener Klinische Wochenschrift*, No. 23, 1903) describes a symptom of rachitis which he has observed in a large number of cases. It consists in a peculiar formation of the joints of the fingers,

which results in a characteristic contour of the fingers. There is a spindle-shaped thickening of the phalanges at the middle portion, while the ends are of normal size. The dorsal sides are more prominent than the volar. The profile view of the hand shows the enlargements to the best advantage.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Adrenalin and Local Anesthesia.—HONIGSMANN (*Centralblatt fuer Chirurgie*, No. 25, 1903).—The author has found it a good plan to inject a mixture of cocain and adrenalin chloride; securing in this way a local anesthesia which is said to extend far beyond the region of the infiltration as well as one which inhibits sensory stimuli passing through nerves which happen to lie in or run through the infiltrated area. He has three different solutions which are graduated in strength to suit the occasion of their use. It may be said in general that a 1 per cent. solution of cocain should contain from one to five drops of the adrenalin chloride to the cem. The anesthesia is more complete and lasts longer than does that which results from a simple solution of the older kinds. In addition it may be said that the wounds are almost bloodless after this treatment, and in addition there is no such thing as post-operative hemorrhage. While this cannot be said to be of such a degree as to take the place of the Esmarch bandage, still this new mixture is of especial avail in situations where it is impractical or impossible to use the elastic ligature or bandage. Again it can be said that the unpleasant edema which results from a simple local anesthetic is completely done away with by this new method, so, of course, the advantage to the operator is manifest. The poisonous effects of cocain are also lessened by this method, it is claimed.

Permanent Results of the Gritti Amputation.—MERIEL (*Archives Provinciales de Chirurgie*, July, 1903).—The case in point was seen three years after the operation and to the author's way of thinking beautifully illustrates the advantages which this method possesses over the ordinary methods of taking off a leg at the same height. The operation had been occasioned by a recurring tumor on the lower leg, and the patella had been sewn to the femur by four silver wires. When last seen, the patient presented a stump which was by no means sensitive, but which was on the contrary highly useful and could be flexed like a normal leg, something which can surely not be said of the usual stump. In addition it may be said that the amount of muscular atrophy is for this very reason much less than that usually observed after the ordinary amputations.

Surgery of the Pancreas.—MIKULICZ (*Annals of Surgery*, July, 1903).—This splendid article was read at the recent Washington Congress by the man whose admirers claim for him the title so long held by Kocher of being the world's foremost surgeon. The surgery of the pancreas is the most incomplete of all that pertains to the abdomen. The position of the organ as well as the technical difficulties of an operation upon it account for this fact, to say nothing of the impossibility of making a positive diagnosis of its affections. Trans-peritoneal and retroperitoneal methods have been advocated for reaching the organ, the former being in most instances the better. In this field it is that the explorative laparotomy finds its greatest value, still the dangers surrounding an attack upon the pancreas must always be kept in mind. These are chiefly due to the ill

effects of escaping secretion upon surrounding tissues and hemorrhage. Wherever pancreatic fluid can escape, it is absolutely essential that the wound be tamponed and not closed up, else the patient will die. In no injury to the upper abdomen is the same to be closed until the pancreas has been well explored, no matter what may have been the condition of other organs. The organ may become diseased by reason of backing up of bile, etc., after plugging up of the ampulla of Vater; and where there is an acute inflammation of the gland, it is not enough that the belly be drained, the pancreas itself must be treated in like manner. The author covers the entire field in his paper, which consists of practically a small text-book on the subject.

A Case of Chronic Intussusception Which Healed Spontaneously by Expulsion of the Necrotic Intussusceptum.—HOLLMANN (*St. Petersburger Med. Wochenschrift*, No. 15, 1903).—According to various authors, there is decidedly less danger from this affection when the intussusceptum is thrown off; the figures of the different writers do not by any means agree, however. Some say that twice as many get well; others, that twelve times as many get well after nature has asserted herself in this way. The history of the reported case is certainly interesting. The patient, a man aged forty-nine, suffered for months with tenesmus and a desire to defecate, but was not wholly able to satisfy the desire because something seemed to plug up his rectum. There was discovered, upon digital examination, a crater-like mass within the rectum, this feeling somewhat like a greatly enlarged and thickened cervix uteri. After a tube was introduced through this "crater" and a large amount of water injected, the mass disappeared and the patient was enabled to move the bowels freely. After several recurrences of this kind the man passed a large mass of gangrenous material, which could be identified as a portion, several inches long, out of the continuity of the intestine. Two months later he visited the hospital, and was found to be in perfect health. The specimen was found to be a portion of the ascending colon into which a small portion of the ilium was invaginated. It is worthy of especial note that the patient affected in this manner and who recovered at the age of forty-nine, certainly presented a very rare occurrence.

The Operative Indications in Hemorrhage from Ulcer of the Stomach.—MATHIEU and ROUX (*Gazette des Hopitaux*, No. 48, 1903).—It seems to the authors logical, as a general proposition, to direct attention to the bleeding vessel, where this is possible. The affection must be divided into three classes: (a) acute profuse hemorrhage which cannot be stopped by medical means; (b) recurring slight chronic hemorrhage; (c) acute abundant hemorrhage which is easily stopped by medical means, but which recurs soon. In the first variety the surgeon has usually been unable to find the ulcer, hence the operative treatment of these desperate patients has been far from satisfactory. One can call surgical treatment justified in such cases only when the ulcer can be excised or the vessel ligated. Then there can be nothing done when the ulcer has invaded the tissues of the pancreas. It is in the second class of patients, with their gradually increasing anemia, that surgery does the most good. We are certain of curing an ulcer located near the pylorus by a gastro-enterostomy, but we can not be sure as yet of the result obtained in cases where the ulcer is situated to the left of the median line of the stomach. In the third class of patients an operation is always of avail if there be gastric stasis (gastro-enterostomy), though there may be a recurrence of the hemorrhage in other cases unless the ulcer be excised. The author draws the general conclusions that the cases with acute, abundant bleeding had better be trusted to internal medication for the time being, but that stenosis and ulcer at the pylorus offer, in general, a thankful and certain field for gastro-enterostomy.

Enterocanastomosis in the Treatment of Stricture and Stenosis of the Intestine.—PRUTZ (*Archiv fuer Klinische Chirurgie*, Band lxx, Heft 1).—This article is from the celebrated v. Eiselsberg clinic, where so much good intestinal work has been done, consequently it is of undoubted value. Twenty-two cases were treated in the way above mentioned, so the experience of the surgeon has been sufficient to warrant the drawing of conclusions. Twelve of these were cancer and six tuberculosis cases. In ten of the patients there was a complete closure and in twelve a stenosis. Where the motor power of the bowel has suffered greatly it is considered far better to make a fistula, and especially is this the case where there is any great amount of contents. However, if the new condition must be permanent, then it is far better to make an anastomosis if this be possible, since the other operation condemns the patient to a miserable existence. Just what is to be done, can, however, be determined only after the abdomen is open, in far the greater number of cases. It is an interesting observation that an anastomosis between ileum and sigmoid leads to incomplete solidification of the feces, consequently these patients have a number of thin stools every day, though the general health need not suffer thereby. In one case, indeed, the duodenum was united with the transverse colon without serious consequences, the patient dying of a lung affection a few weeks later. In some cases the contents did not take the desired direction through a new side-to-side opening, hence it was thought best in other cases to divide the gut squarely and to implant the proximal end into the side of the distal gut far below the diseased area.

Perforation of the Rectal Wall Which is Made While Doing a Hysterectomy and Cannot Be Sutured. Its Treatment.—CHAPUT (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 22).—On account of the depth of this viscus, or further on account of the condition of the wall of the viscus, it is usually impossible to suture the defect. This meant formerly one of two things, either a resection of the rectum or an artificial anus. The latter is surely undesirable and the former is usually impossible on account of the patient's condition after removing the uterus. The author's plan after such an accident is to bring the peritoneal flap like a tent across the pelvis and attach it to the posterior wall and to the rectum above the new opening. In this way the abdomen is shut off from the contaminated area and the escaping feces are allowed to find their way out through the vault of the vagina, which should be left open for the purpose. It is astonishing how promptly such a fistula will close of its own accord, and how little annoyance it causes the patient.

The author relates two such instances, and in both the peritoneum remained free from inflammation and the fistula closed in a matter of a few days only.

Further Experience With the Vertical Overlapping Operation for the Radical Cure of Umbilical Hernia.—MAYO (*Journal of the American Med. Ass.*, July 25, 1903).—This beautifully illustrated article calls attention to the exceptional results which the Mayos have attained by the use of a comparatively simple procedure. Instead of attempting to unite the edges of an existing defect by bringing its edges together laterally, they do just the opposite, that is, overlap them from above downward. It is not the idea to make much use of the attenuated muscles, but most of the strain is placed upon the aponeurosis or its extension, the anterior rectus sheath. In all sorts of relaxed abdomens there takes place a vertical lengthening of the anterior abdominal wall, a circumstance which is turned to account in this operation. The operation has been performed thirty-five times since 1895 and in all of these cases there has been but one recurrence. The author makes a point of not forcing into the abdominal cavity any viscus "which has lost its right of habitation," that is, he cuts off protruding omentum, or if it be gut which is out, he removes some of the omentum inside, and thus

makes room for the return of the gut which may be said to have no further "right of habitation."

The technique is given in full, but for details as to this the original must be seen.

A Fistula Between Bladder and Colon Cured by Operation.—HEPNER (*Beitrag zur Klinischen Chirurgie*, xxxviii Bd., 3te Hft.).—Since most of these cases are caused by malignant tumors that are inoperable long before the fistula makes its appearance, the prognosis may be said in general to be a very bad one. The patient when she entered the hospital had suffered for fourteen months from a most serious disturbance of the bladder and rectum. There was an intense cystitis and feces were emitted through the urethra. After ten days in bed it was possible to discover, with the cystoscope, an opening in the posterior wall of the bladder, and at the operation the bladder was seen to be attached to the sigmoid just above the point where it goes over into the rectum. After crushing the connecting tissues between two forceps they were divided and the ordinary suture made. Everything healed promptly and the symptoms rapidly disappeared, as might be expected. The explanation of this new connection is that an acquired diverticulum in the wall of the sigmoid resulted from constipation, and that this ulcerated through into the bladder. It is well known that such diverticula do commence at the points where the vessels penetrate the muscularis of the sigmoid, under high tension as in constipation, and that ulceration occurs at the most dependent portion as a result of fecal accumulation. Then the mechanics of fistula formation is the same as where an appendiceal concretion passes into the bladder, or a gall stone into another hollow viscus.

Splenectomy for Malarial Enlargement.—GOINARD (*Archives Provinciales de Chirurgie*, July, 1903).—The immense spleen, which weighed 2600 grams after the blood had run out, was removed from a girl of sixteen. Before the operation she had looked much like a pregnant woman at full term. The author's expectations were fulfilled by the operation, inasmuch as the patient is again in perfect health and, after four months, shows no further deformity at all. There were no adhesions, and some of the veins were as thick as a man's finger, but it was possible to ligate them singly; then, after a mass ligature had been thrown around the pedicle, the organ was removed without more hemorrhage than the usual amount of blood contained in an organ of the size concerned. Though the after-recovery was in most respects uneventful, there was one rise of temperature which persisted for forty-eight hours, and is interesting chiefly for the reason that it was most likely due to a malarial exacerbation due to the handling of the diseased spleen.

A Review of 303 Operations Upon the Stomach and First Portion of the Duodenum.—W. J. MAYO (*Annals of Surgery*, July, 1903).—A decided preference is given gastro-enterostomy over any form of stomach exploration with a possible excision of the ulcer in view. The logical reasons for this course are that the latter procedure is at the same time unsatisfactory and dangerous. In sixty per cent. of the author's malignant cases there was a history of gastric ulcer—surely a good argument for the surgery which will prevent this form of degeneration. Of all the patients, one hundred and nine were afflicted with cancer, a disease which in the future must be recognized by clinical, rather than by laboratory methods, if radical treatment is to be secured. Early exploratory incision is the hope of the future. Of the twenty-seven cases treated radically, but six died from the operation; surely a good record; it may be said, in addition, that the ultimate results have been almost equally gratifying. The technique is given in full. The paper is rich in valuable conclusions and surgical hints

which were suggested by the author's rich experience, but it must be read in detail to be appreciated.

Gastro-enterostomy with Gastrostomy.—HAMMESFAHR (*Centralblatt fuer Chirurgie*, No. 23, 1903).—The author is of the opinion that this well-known method has not been as extensively tried as it deserves. And there may be something in the criticism, when we reflect that the tube procedure precludes the possibility of circulous vitiosus, and furthermore that the patient can be safely given nourishment as soon as the operation is completed. The tube is to be left in position for about three weeks, at the expiration of which time the fistula heals promptly. The author has done the operation twelve times and all the patients got well, nor was there any tendency to vomiting in any of them. In fact one case which had been operated in the old way had to be reoperated by the new method for the cure of vomiting.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

A Novel Treatment for Chronic Morphinism.—C. ENGELSKJOEN (*Centralbl. fuer die ges. Therapie*, 1903, No. 6).—The writer having become addicted to the use of morphine hypodermically as the result of a long-continued and painful illness, tried all the methods known to him, in an attempt to get rid of the habit. Each attempt, however, resulted in failure; his sufferings when he attempted to abstain from a certain minimum dose, were such as to necessitate a return to the morphine. Attempts to substitute dionin or codein for the morphine met with no better success. Finally he had occasion to observe that the administration of morphine by mouth was not followed by morphinism to anything like the extent as its hypodermic use, and that the morphinism so acquired was curable with comparative ease. Accordingly he replaced his hypodermic dose by a considerably higher dose by mouth; this gave him comparatively little trouble. The amount of morphine given by mouth could then be slowly reduced without ill after-effects, and at the time of writing he asserts himself to be definitely rid of the habit.

In this connection it is of interest to note that Fromme's antimorphen, with the use of which some striking cures of morphinism were reported, has been proven to be merely a solution of morphin. As it is given per os, success following its use would seem to be the replacing of a nearly incurable hypodermic habit by a more easily curable method of administration.

The Influence of Medicaments on the Glycosuria of Diabetics.—M. KAUFMANN (*Zeitschr. f. Klin. Med.*, 1903, No. 48).—In Prof. v. Noorden's clinic a large number of diabetics were tested as to the influence of various drugs upon the amount of sugar excreted by them. Opium and its derivatives diminished the glycosuria in a certain proportion of cases, especially where, after the institution of a strict diet, a slight glycosuria still remained. Considerable doses of opium are required for the production of constant results. Sodium salicylate and aspirin gave the best results, especially in mild cases. In one case 3 gm. aspirin brought about the entire disappearance of a mild glycosuria; its effect endured several days after the cessation of its administration. All the other drugs tested were found to be practically without influence upon the glycosuria.

They included bromides, corrosive sublimate, carbolic acid, salol, creosote and its allies, antipyrin, piperazin, iodine compounds, arsenic, quinine, methylen blue, yeast, diastase, liver extract, pancreas (both raw and extracted), alkalies, calcium, uranium and ammonium salts, and many more. A number of proprietary remedies were also tested and found quite without influence upon the glycosuria.

Perdynamin.—SEIFERT (*Therap. Monatshefte*, 1903, No. 1).—Seifert has used perdynamin in gynecologic practice for cases of anemia following hemorrhage (abortion, atony, myoma, etc.) with good effect. The patients made a strikingly rapid recovery and took the drug, which had no ill after-effects, with pleasure.

Yohimbin as a Local Anesthetic.—HAIKE (*Therap. der Gegenwart*, May, 1903; *Excerpta Medica*, 1903, No. 10).—In the university clinic for diseases of the ear, at the Charite, Berlin, yohimbin has been used as a local anesthetic with good results. In his first attempts the writer was limited to the use of a one per cent. solution on account of the slight solubility of the chloride of yohimbin in water. Dropped on the conjunctiva, this solution caused a complete anesthesia, accompanied by hyperemia, within ten minutes; in the nose and ear, however, the results were negative. In 30 per cent. alcohol it was possible to make a 1.5 per cent. solution of yohimbin. This produced a very complete anesthesia of the middle ear and of the tympanum, if the epithelial lining of the latter was injured; in the nose it could be used only in such cases as were not irritated by the alcohol, which often produces a distressing, burning sensation. The author finally found that boiling water would dissolve 2 per cent. of yohimbin, and would retain almost all of it on cooling. By means of this solution complete, if somewhat superficial, anesthesia of the nasal mucous membrane could be produced. Thus after its use trichloroacetic acid caused no pain, whereas deep cauterization did. For many purposes, therefore, yohimbin is a substitute for the far more dangerous cocain. The absence of a local anemia such as occurs with the use of cocain, is often an advantage, as when small polyps or granulations are to be snared; where an anemia is desired it can be obtained by the simultaneous use of suprarenal extract.

As regards the technique of its use, the writer gives the following directions. The solution is best made fresh with distilled water, although it will keep for several weeks in dark bottles, especially if a drop of chloroform has been added. It acts most quickly and most intensely in a 1.5 per cent. solution in 30 per cent. alcohol, and it is so that the writer always uses it in the ear. In the nose the 2 per cent. solution should be used, although where complete anesthesia is not essential, as in the examination of the nose with probes or in the catheterization of sensitive patients, a $\frac{1}{2}$ –1 per cent. solution suffices. In the ear as well as in the nose the preparation is more active if painted on the epithelial lining than if merely dropped into the cavity. Three to five minutes are required for the production of anesthesia, which lasts twenty to thirty minutes. The author has never seen disagreeable symptoms following the external use of yohimbin.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

An Experimental Investigation of Trypanosoma Lewisii.—EDWARD FRANCIS (*Hygienic Laboratory, Bulletin No. 11, Treasury Department*).—The *Bulletin* brings

a good review of all that is known in regard to the trypanosoma diseases. The text is interwoven with reports about the work done at the Hygienic Laboratory on the rat parasite; the results of the investigation add nothing new to the former work of Mesnil and Laveran. The pamphlet ought to be widely distributed, because it contains all the information we so far have obtained about this interesting class of parasites, information that in its entirety is nowhere else so easily accessible.

Der Kampf und die Immunization des Organismus gegen die Tuberculose.—E. MARAGLIANO (*Berl. Klin. Wochenschr.*, No. 25 and 26, 1903; see also *Medical News*, July 4, 1903).—Maragliano sums up in this paper the result of the work he has done untiringly for many years on the treatment of and immunization against tuberculosis. The tenor of his convictions is too well known to be discussed here. His opinion on the possibility of producing antitoxic substances by immunization of animals, substances that are protective and curative, is certainly confirmed by the results of his own experience and that of many of his countrymen in animal experimentation and in the treatment of human tuberculosis. Although the practical results have never been disputed, especially the German school has all along hesitated to discuss their theoretic correctness, mostly on the ground that it is impossible to establish the latter in a manner analogous to the investigation of diphtheria and tetanus antitoxin. Maragliano has certainly shown that there are processes going on in the infected animal organism the protective character of which can be demonstrated, although we cannot express it in an exact number of antitoxic units. Koch, himself, has approached such a view in the conclusions he has drawn from his agglutination experiments. The history of this study (and that is mainly what Maragliano's paper gives) it is not necessary to repeat here. The important part of the paper lies in the announcement that he has succeeded in establishing immunity from tuberculosis by the causation of a local tuberculous process. The material used for this purpose is not named: we only know that it is not the living bacillus. A further elucidation about this point will soon be made. He has in this way made rabbits and other animals immune against the infection with virulent bacilli and has tried his method, too, on human individuals. Although the latter experiments at the present naturally allow of no conclusive inferences, these are made with positiveness for animals. The inflammatory irritation set up by this vaccination is said not to be severe and to pass off within a few days. If Maragliano's assertions shall be confirmed and verified, he will have given to mankind one of the greatest boons we could receive. What Behring in his classic researches points out as the probable and most likely achievable solution of the tuberculosis problem, seems, after Maragliano, to be already a fact that will begin to show its beneficial influence in the near future.

Bacterium Coli as Indicator of Fecal Contamination of Water.—Z. PETRUSCHKY and H. PUSCH (*Zeitschr. fuer Hyg. u. Infect. Kr.*, vol. xliii, Heft 2).—The practical importance of routine bacteriologic water examinations has gradually been reduced to the question whether it is possible by a bacteriologic analysis to demonstrate contamination with fecal material. While it seemed for some time that the relation of the presence of the bacterium coli commune to such a contamination could be considered a stringent evidence no more, the pendulum has swung slowly around and today it is not the mere presence of this bacterium, but its relative number, that is thought to be the salient point. If the factors of dilution are considered, this way of looking at the subject appears to be the only rational one, and a water ought not to be condemned on account of the presence of the coli bacillus in a comparatively great quantity. From this point of view the authors have elaborated a very practical and satisfactory method by which

the "coli-titre" of a water (the smallest volume still containing coli bacilli) can be easily determined in a very short time. For the details of the method the paper itself must be consulted. This new procedure, for instance, permits the quick determination of the relative contamination of different portions of a water-works system, and thus gives the possibility of tracing with certainty the place of pollution. Since for the hygienic opinion on a given water only the thermophilous bacteria enter into consideration, the procedure of counting the whole number of bacteria present is of no value and ought to be insisted on only under certain circumstances. That this method, of course, does not apply to water suspected of cholera infection, goes without saying.

Researches on the Etiology of Sleeping Sickness.—A. CASTELLANI (*Journ. of Trop. Med.*, June 1, 1903; *Lancet*, June 20, 1903).—It seems that one of the most mysterious problems of tropical medicine is near its solution, or is already solved. After several bacteria, etc., had been inculpated as the etiologic factor of sleeping sickness and many other theories had been advanced, Castellani has made a systematic examination of the cerebro-spinal fluid and of the blood of thirty-four cases. In seventy per cent. of these cases he found in the cerebro-spinal fluid a trypanosoma, very nearly related to the trypan. Gambiense, first found by Dutton, and later described by Ross and others. The flagellate found in sleeping sickness differs in certain points from Dutton's parasite. In view of the different clinical symptoms produced by the latter, and furthermore from the evidence obtained from the study of the specificity of the parasites in the four or five animal trypanosomiasis, it appears likely that the parasite found by Castellani is a new species. It is interesting to note that in eighty per cent. of his autopsies he isolated from the blood and organs a streptococcus, which, however, he was never able to find during the life of his patients. In contradistinction to other observers of such concomitant infections in scarlet fever and other diseases, Castellani considers this finding as an agonal invasion and is inclined to attribute the primary etiologic role to the trypanosoma. Further investigation of this interesting disease will most likely confirm his opinion.

Valeur Diagnostique des Leucocytoses.—F. BESANGON (*Gazette des Hopitaux*, 1903, June 6).—Although this article does not bring anything new and original, it must be mentioned on account of the clearness and impartiality with which the subject is treated. The discussion of the diagnostic value of the leucocyte-count often loses sight of the principal points to be considered, and is always inclined to make conclusions from single cases that seem not to fit the theory. If, however, such cases would be studied more closely, there is no doubt that such aberrations would be explained. Besancon emphasizes this fact, and also insists on the error of drawing conclusions from the blood examination alone. The paper is a very valuable guide for anyone not thoroughly acquainted with the possibilities of the method.

The Relation of Inorganic Salts to Protoplasmic Activities.—ALBERT P. MATHEWS (*Yale Medical Jour.*, June, 1903).—A comprehensive paper about the latest work done on the subject indicated by the title. Space will not permit to give more than the concise summation of the author's conclusions.

Inorganic salts are absolutely essential to protoplasmic activities, because by their dissociation in water they form an electric substratum in which protoplasmic processes go on. This substratum must be practically neutral—that is, there must be present both positive and negative particles, but these particles must be potentially equivalent. To bring about a condition of absolute neutrality there must be a mixture of salts in definite proportion, because in no salt known are the two ions exactly balanced. For this reason no single salt solution so far tried can sustain protoplasmic activity. All single solutions are poi-

sonous. Any change in this electrical substratum produced by the electric current, or by the introduction of salts of different electric efficiency, or by the action of light, produces a change in protoplasmic activity. That change is toward an increase in activity in the motor nerve at least, if the change is toward a predominant negative ion; toward a decrease in activity if toward the positive side.

Inorganic salts act upon protoplasm primarily at least by disturbing the protoplasmic equilibrium of this substratum. KCl , $LiCl$, $CaCl_2$, HCl disturb it toward the positive side; OH , $NaCl$ and other salts of sodium toward the negative side.

By changing this equilibrium very slightly—for example, by varying the relative amounts of inorganic salts in the blood—a condition of depression or stimulation may be produced and extended over very long periods. The action of mineral waters and intravenous salt solutions depends on this principle, and we are now in a position to employ these agencies upon a scientific basis.

Physiological action of inorganic salts is an electrical action due to the changes of the ions of these salts. The physiological action of any salt is equal to the sum of the actions of its ions. Recognizing that negative and positive ions have opposite actions, we can now explain electrical stimulation and proceed to develop scientifically electro-therapeutics.

Fat-Necrosis of the Kidney.—JAMES R. GUTHRIE (*Journal Amer. Med. Ass.*, July 4, 1903).—Under this name Guthrie describes a very interesting case in a woman with the symptoms of an intra-abdominal tumor. On examination it was recognized as a renal tumor and a lumbar incision was made. On splitting the capsule nearly a pint of oily fluid was discharged, while the substance of the kidney was reduced to a thin shell. The patient recovered. The examination of the fluid showed that it consisted of oil, fatty cells, together with fibrous and connective tissue. No data about the condition of the urine before the operation are given. The case is certainly unique, but why it should be called a fat-necrosis is not clear. We connect with this term an absolutely different condition, and a “liquefying” fat-necrosis is not known.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

The Digital Exploration of the Rectum in Gynecologic Practice.—JULIUS NEUMANN (*Wiener Mediz. Wochenschr.*, No. 24 and 25, 1903).—The writer emphasizes in this article the various advantages of a routine examination *per rectum* in gynecologic practice. The necessity for its employment in virgins is obvious; its preferability, however, in women soon after confinement, particularly if there are ulcerations in the vagina or on the perineum, is not duly appreciated. A rectal examination is essential in arriving at a satisfactory diagnosis as to the extent and nature of affections of the parametrium. In cases of carcinoma the earliest stages of infiltration of the parametrium can be detected. In inflammatory processes the extent of the involvement of the pelvic connective tissue can be ascertained with certainty. In cases of affections of the uterine appendages, especially if the uterus is retroflected, the rectal examination will complete the preceding vaginal exploration. In many instances the complaints of the patients, although pointing to some gynecological trouble, will be found due to a stricture of the rectum, or carcinoma or ulcerations.

The examination is made bimanually, one hand exerting counter-pressure from the abdominal wall, eventually from the vagina, if the affliction is located in the septum recto-vaginale. Just as in vaginal examination, rectal exploration requires extensive practice before satisfactory results can be expected. It should be the routine procedure in gynecologic practice.

Man's Responsibility in Sterile Marriage.—W. H. PRIOLEAU (*American Medicine*, June 20, 1903).—That the husband is more often at fault in the case of sterile marriage than the wife is easily proved. Noeggerath claimed that 80 per cent. of all men living in large cities suffer from gonorrhea, and that 90 per cent. of all sterile women are married to men who have suffered from gonorrhea either previous to or during married life. In 70 per cent. of the cases the responsibility of a sterile marriage belongs to the man, due either to azoospermia, or impotence, or because of the wife's infection with gonorrhea by her male partner. Other causes of sterility in the man due to a specific urethritis are epididymitis and stricture. Another cause of sterile marriages, and of considerable importance, is syphilis.

The most pitiable feature in this condition of affairs, in the writer's opinion, is the fact that the man seldom ever questions his own potency, but allows the woman to consider herself the cause and undergo manifold operations at the hands of gynecologists to relieve the situation. The writer believes that it is the duty of the house physician to bring about a change in these deplorable conditions. Every boy reaching the age of sixteen should be informed of the deleterious effect of gonorrhea and syphilis. No patient with venereal disease should be dismissed until there is positive evidence of a complete cure. Each patient with venereal disease should be informed of the possible result to himself and wife, if married. Every family physician should inform the parents of marriageable daughters of the seriousness of venereal diseases. State laws should be established making it a crime for a man or woman to marry while suffering from venereal disease.

When a husband of a fruitless union consults the physician, the man should be examined carefully before the woman is subjected to the ordeal.

The Responsibility of Man in Sterile Marriage.—J. BALIN (Odessa) (*Rev. in Centrbl. f. Gynaek.*, June 27, 1903).—In two hundred cases of sterile marriages the sperma was subjected to microscopical examination, if the examination of the woman did not reveal a positive cause of the sterility. The author's conclusions are: In 36.5 per cent. of the cases sterility was due to azoospermia, in 19 per cent. to oligonekrozoospermia. (Spermatozoa few in number and without active motility.—Ed.) 63.3 per cent. of the azoospermic men owe this condition to gonorrhea acquired before marriage. More than half of the men were infected before marriage. The most common cause of sterility in marriage is latent or manifest gonorrhea of the husband.

(The apparent discrepancy in the figures of this author and the author of the preceding article is due to the fact that in this latter paper the cases with distinct gynecologic lesions are excluded, although they might have been due to a gonorrheal infection.—Ed.)

Hundred Consecutive Cases of Myoma of the Uterus.—GUY L. HUNNER (*American Medicine*, July 11, 1903) —As has been stated by the reviewer on previous occasions, there is a marked tendency among modern gynecologists to prove that myoma of the uterus is not by any means the harmless ailment that it was considered to be by older writers.

Hunner's article is a convincing and forceful plea for a more active interference with this affliction. He analyzes the histories of a hundred patients suf-

fering from myoma of the uterus. Symptoms, complications, the various sufferings of the patients and the result of operative interference are critically reviewed. The writer does not believe in operating on every uterus containing a myoma, "but as our knowledge grows regarding the serious nature of this affliction and as our ability of doing conservative work increases, the indications for operation will expand until no good surgeon's record of one hundred cases will show that six women have been sacrificed (the mortality in Hunner's cases being six per cent.) because they waited until it was forever too late."

The Perils and Complications of Fibroids After the Menopause.—J. BLAND-SUTTON (*Lancet*, June 6, 1903).—Bland-Sutton, the well-known gynecologist of the Chelsea Hospital in London, concludes his concise and lucid paper with the following remarks: "Fibroids arise in the uterus only during menstrual life—that is from 15 to 45 years of age. As a rule they cease to grow after the menopause; after this event they may shrink. Some writers believe that they occasionally disappear, but this is very hard to prove and harder still to believe; therefore as a concession to tradition it may be described as a phenomenon about as rare as the advent of a comet. After the menopause fibroids sometimes grow, and though an unusual condition, it rests on the accurate observations of trained observers. Though a fibroid may cease to grow after the menopause it is still liable to extrusion from the uterus and gangrene with all the attendant dangers and enmity to life."

Surely there is nothing in the whole range of surgery more ironical than a woman spending twenty or even thirty years of her life as a chronic invalid on account of a uterine fibroid in the expectation that at the menopause she will be restored to health and begin a new life, and then to realize that, far from this dream being fulfilled, the fibroid becomes necrotic, extruded or septic, places her life in the gravest peril, and that she may die in spite of surgical intervention."

On Chorea in Pregnancy.—CECIL WALL and H. R. ANDREW (*Jour'l of Obst. of Brit. Emp.*, June, 1903).—This article is of considerable practical importance since it tends to disapprove the wisdom of artificial interruption of pregnancy when complicated by chorea, as is taught by most of the modern text-books. In the opinion of the authors, chorea seems to be determined by overstrain or shock, the determining cause being only effectual when it acts upon a brain whose power of control is somewhat lowered by the pregnant state, and, in addition, is unstable in consequence of (a) antecedent chorea, (b) antecedent rheumatism or other similar debilitating condition, (c) a defect in development. The treatment of chorea in pregnancy is that of ordinary chorea: Rest, good food, removal of eventual cause for anxiety or worry. Treatment by bromide of potassium is probably bad altogether. If a sedative is needed, chloral hydrate or chloralamid are the best. Opium is unsuitable for use in these cases. Alcohol is in some cases exceedingly useful, but should not be given if continued doses of arsenic are being administered. Of these two drugs the writers consider alcohol by far the more important. Induction of abortion or premature labor is seldom needed and frequently fails to save the patient, therefore, it need not even be considered.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

The Summer Diarrheas of Infancy.—KNOX (*Jour. A. M. A.*, July 18, 1903) contributes a most interesting paper as a resume of present knowledge on this important subject. While it appears certain that the summer diarrheas are infectious, *i. e.*, microbic in origin, it is altogether probable that the infective element is not the only causative factor. Indeed, many authorities consider improper feeding as of prime importance. The high temperature of the summer months provides the most favorable conditions for the proliferation of bacteria in food products, especially milk. The residue of undigested milk in the intestinal tract, resulting from immoderate feeding, or enfeebled absorptive power, thus forms an ideal pabulum for the growth of bacteria. Again, the fact that the disease is much more common in badly nourished, enfeebled children, living in illy ventilated quarters in unhygienic conditions, would go to show that the morbidity (indeed, also, the mortality) is directly influenced by the resistance of the patient, which in turn is dependent upon the condition of the intestinal tract.

The general trend of opinion would incline to agree with Booker's dictum, that "no single organism is found to be the specific exciter of the summer diarrheas of infants." Among the bacteria which has been isolated from the stools of infants in these diseases (in addition to the *B. lactis aerogenes*, the colon bacillus and the *B. acidophilus*, which are present in the stools of healthy infants) may be mentioned *B. proteus vulgaris*, *B. pyocyaneus* and the pyogenic cocci.

Last summer Duval and Bassett succeeded in isolating the *B. dysenteriae* (Shiga) in forty-two out of fifty-three cases examined. The stools of twenty-five normal infants were examined; from none of these could the bacillus be isolated. For the details of this work reference must be had to the original communication. It is worthy of note, however, that a special agglutinating action of blood serum from these patients for this particular bacillus was established.

In no instance did normal blood agglutinate the bacilli. While it is still too early to speak of the clinical value of the test, it is apparent that it opens up an entirely new field of diagnosis, and, so, through the production of an antidysenteric serum, of therapy.

The work of Duval and Bassett would appear to have established the fact that the *B. dysenteriae* is the causal factor of some diarrheal diseases of children.

The author subdivides his cases into three main groups, clinically: (a) Acute dyspeptic or fomential diarrhea (gastro-intestinal catarrh) in which the toxic symptoms are prominent; (b) colitis, with definite lesions of the intestinal mucosa; (c) cases of marasmus and chronic indigestion, with an added element of infection. It is understood that these divisions do not represent clinical entities, but that one form of illness may pass into another.

Of special complications, mention should be made of pneumonia and parenchymatous nephritis.

The blood count showed a leucocytosis, with relative increase of the polymorphonuclears. The range of numbers of the white cells was so great, however, that no diagnostic reliance could be placed on the results.

The treatment used is that ordinarily recommended—initial purge, withdrawal of milk and the use of cereals, of egg albumin and of stimulants as needed. Of the latter, strychnia, digitalis, alcohol and atropin seemed useful in the order named.

In a few cases an antidysenteric serum supplied by Dr. Flexner was used,

without effect, however. It is possible that a more powerful serum may prove of value, especially if used early in large doses.

With reference to the propagation of the disease, it would appear probable that the drinking water may be one general source of infection, though direct contact will explain many cases, of course.

Influenza in Children.—WILLIAMS (*Journal A. M. A.*, July 4, 1903) calls attention to the great morbidity, and to the frequently great mortality of children from this affection. Age does not appear to have any great effect on the susceptibility, though infants, owing to better protection rather than to natural immunity, are relatively less often affected than older children. Owing to the widespread dissemination of the micro-organisms, prophylaxis is of little avail; nevertheless, exposure to actual cases is to be avoided when possible, as it appears certain that the disease may be conveyed by contact. Every effort should be made to keep the various mucous membranes in a normal condition, therefore, ordinary catarrhal colds should never be neglected.

The division of the disease into various types is more or less arbitrary, as nearly all the cases show the mixed type.

However, the cases in which catarrh of the mucous membranes is most conspicuous are the more common. Starting with a rhinopharyngitis, the affection spreads to the respiratory or gastro-intestinal tract, or both. But wherever there is mucous membrane we may have catarrhal inflammation set up.

The previous condition of these mucous membranes thus becomes a matter of great importance, the more nearly normal and healthy the membranes, the fewer will be the manifestations of the disease.

While the catarrhal manifestations are due to the micro-organism itself, the nervous, circulatory and febrile disturbances are due rather to the toxins elaborated by the bacilli. In this way many of the graver complications are to be explained.

A form of the disease often overlooked is the chronic variety; chronic cough, with glandular enlargement, is often influenzal in character. Relapses and sequelæ are common even during convalescence, and may follow even very mild initial seizures.

Feeding of Older Infants and Children.—HARTSHORN (*Medical Record*, June 22, 1903) discusses the feeding of children during the second six months of life. He believes that cereals are of great value, and in many cases easily digested. Flaked rice, cream of wheat, oatmeal gruel and farina give excellent results in individual cases. At the nursery and child's hospital the best results have been obtained by the use of bread and milk prepared in the following way: Stale bread, twenty-four to forty-eight hours old, is used. The pulp of this is soaked in boiling water until thoroughly softened, and the water then poured off; a cup of milk is then added and the mixture boiled for three or four minutes. It is then sweetened and cooled, and is ready for feeding. At first a teaspoonful once a day is given to an infant seven months or older, and the quantity is increased as the child is accustomed to it, until, at the end of ten days, the child receives two to three ounces daily. This food is given between the regular bottle feedings, and never more than one-half ounce is given at a time. If curds appear in the stools, or if symptoms of indigestion occur, the food is at once stopped. To children ranging from eighteen months to four years this food is given daily. In addition, they receive farina with milk, boiled rice with meat broth poured over it, occasionally a little jelly on bread, and during the fruit season they are allowed some easily digested fruit at noon. From his experience, Hartshorn believes that the bread and milk forms a valuable addition to the dietary of children.

The Fever of Dentition.—CORSON (*New York and Philadelphia Medical Jour.*, July 25, 1903) insists that the fever which frequently accompanies the eruption of the teeth is not due to the local process, and is, therefore, not to be explained by the swollen condition of the gums, but in nearly every instance to some intercurrent affection. In the majority of cases the trouble lies in the gastro-intestinal tract.

The swelling of the gums rarely goes on to real inflammation, and suppuration is very rare. Lancing of the gums is thus hardly ever indicated, indeed, the author has had two deaths following the procedure.

Treatment should, therefore, be directed to the intestinal condition. Calomel and castor oil are usually indicated.

Locally, the author has had excellent results from a mouth wash containing chlorate of potash and tincture of hydrastis canadensis.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Results of Surgical Treatment of Brain Tumors.—M. ALLEN STARR (*The Journ. of Nerv. and Ment. Dis.*, No. 7, 1903).—This paper is an analysis of three hundred and sixty-five cases of operated brain tumors collected from literature, including the author's considerable personal material. Of these three hundred and sixty-five cases, the tumor was not found three times; in fifty-nine cases the tumor was removed and the patients died; in one hundred and sixty-eight cases the patients recovered. There are two elements which render the chances of success at the present time better than formerly: the accuracy of diagnosis and the accuracy of localization. The chances of success have also been materially increased by the newer surgical methods of entering the cranial cavity. Starr is very skeptical concerning the success of operation on cerebellar tumors. His own experience with nine unsuccessful operated cases amply supports his view. The causes of failure in operated brain tumors are, first, mistakes in the diagnosis and the location of the tumor; second, tumors, even when correctly located, cannot be removed, or even when accessible for operation, cannot be removed, such as an infiltrating glioma without any boundary and with a vascular softened tissue about them. In addition this variety of tumor is particularly liable to return even if partly removed.

The Cyto diagnosis of Cerebro-spinal Fluid.—SCHOENBORN (*Neurolog. Centralbl.*, No. 13, 1903).—Most of the work on the study of the cerebro-spinal fluid in various chronic nervous diseases has been done in the French clinics. This is rather strange, as the first important work on this subject was done some ten years ago by Quinke of Kiel. The Germans have been singularly lax in following up the line of work done by him. In this paper, Schoenborn attempts to bring to the attention of German physicians the importance of the examination of the cerebro-spinal fluid. He first gives a very concise, but thorough review of the work that has already been done, and then notes the following as the result of his own investigations: In eight cases of tabes a very marked lymphocytosis was found seven times. In one case a moderate degree was noted. In a number of other diseases, such as progressive muscular atrophy, paralysis agitans, glioma cerebel. neuritis, the finding was negative. A pathological lymphocytosis is defined as follows: With a magnification of four hundred to four hundred and fifty, three or four lymphocytes are abnormal. In the cases

of tabes in this paper, an average of thirty to forty were found in a field. The author believes that the study of cerebro-spinal fluid deserves more attention than has yet been given to it among German physicians.

Meningismus and Paroxysmal Mental Puerilism in a Hysteric.—DUPRE and CAMUS (*Rev. Neurolog.*, No. 13, 1903).—A number of cases in which symptoms suggesting meningitis appear with recovery of the patient are being reported in increasing numbers. To this group of symptoms various terms have been given—pseudo-meningitis, psychogenic meningitis, meningismus, etc. In the case described above many points of great interest are brought out. A girl, eighteen years old, showed evidence of what appeared to be a serious illness. Temperature 47° C., headache, cephalic cry, strabismus, myosis, paresis of inferior facial, hyperesthesia, etc. The patient recovered. The authors note the following points of unusual interest in the case: 1. The succession in the same case of meningismus and mental puerilism. 2. The presence of fever of a high degree, typical of meningitis—probably an example of hysterical fever. 3. The existence of Babinski sign. 4. Recurrence of the meningitic symptoms caused by the death of a sister from tubercular meningitis.

Reactionless Pupils in Hereditary Syphilis.—FINKELNBURG (*Deutsche Zeitschr. fuer Nervenheilk.*, vol. 23, Nos. 5 and 6).—It is rather rarely that the relationship between hereditary syphilis and disturbances of the nervous system in both parents and children can be definitely shown. In this paper two cases, which describe very well this connection, are reported:

Case 1.—Boy, eight years old; father, tabetic and syphilitic. Mother aborted several times. The child has a unilateral reactionless pupil, with sluggish light reaction on the other side.

Case 2.—Girl, sixteen years old, backward mentally and physically. Mother had dementia paralytica; father tabes. Pupils on both sides do not react to light, and on one side there was a failure of accommodation. Eye-ground normal.

Remarks on the Treatment of Paralysis Agitans (Parkinson's Disease).—J. MADISON TAYLOR (*Therapeutic Gaz.*, July 5, 1903).—A further report of a method of treating paralysis agitans by exercise. The method can be described as a series of carefully directed movements, both passive and active, by which the contractures shall be overcome, the joints loosened up, and flexibility compelled, and next education in voluntary movements, almost solely of the extensors in the arms, the flexors in the legs, not neglecting other muscles little used. To sum up, the indications in Parkinson's disease are to overcome the growing atrophy, to induce systematized return to normal activity, to use all gentle and yet forceful means to secure elasticity to the tissue, and finally to stimulate the circulation in the spinal cord by graduated pressure upon the spinal areas through which, reflexly, many of the fibers in the cord can be restored to function and others improved. The author has had some success in following this method of treatment, particularly in one case where the intelligence of the patient was much beyond the normal.

GENITO-URINARY SURGERY

IN CHARGE OF

H. McC. JOHNSON, M. D.

Pathological Anatomy of Acute Cystitis.—MOTZ and DENIS (*Ann. des Mal. des Org. Urin.*, June 15, 1903).—The pathogenic anatomy of cystitis has been but little studied by urologists. Only last year a study of chronic cystitis was made by Halle and Motz, but when we look for a histologic description of the bladder walls in recent acute cystitis we cannot find a single contribution, although macroscopic reports have appeared. These are more or less misleading, because they confound acute and chronic cystitis. Contrary to published macroscopical accounts, neither the muscular nor the peripheral adipose-conjunctive layers are ever infiltrated in recent acute cystitis.

From a study of fourteen bladders with acute inflammation lasting from ten days to three months, the authors demonstrate that in acute cystitis of medium intensity:

- (a) The epithelium is not altered, nor does it fall away;
- (b) The embryonic infiltrations can be massive, invading uniformly all the sub-epithelial layers; separated and divided by tracks of conjunctive tissue; or, on the contrary, grouped in masses, forming veritable abscesses;
- (c) The inflammatory lesions invade only the derma and sub-mucosa, without ever attacking the muscular layers;
- (d) The vessels are strongly dilated in the beginning, and later take on considerable development;
- (e) In cystites which have lasted a certain length of time the muscle becomes hypertrophied.

Surgical Treatment of Nephritis.—FERGUSON (*J. A. M. A.*, July 4, 1903).—The author says that the first announcement that has ever appeared recommending a surgical treatment for Bright's disease is a paper published by himself, March 11, 1899, entitled "The Surgical Treatment of Nephritis, or Bright's Disease." It seems that both Edebohls and Guiteras, who have made a historic review of the subject, overlooked this publication in the *Journal of the American Medical Association*. The various operations published by different authors are collected and discussed. Due credit is given Edebohls for having promulgated the operation, and having individually worked out the surgical treatment. Seventeen cases are reported in detail, the vast majority of which were for movable and chronically inflamed kidneys, but the two cases carried out for parenchymatous nephritis resulted in the most excellent and astonishingly prompt improvements. It was noticed that a tender kidney is often relieved after its fellow has been decapsulated. While the microscopic appearance of a kidney, as observed and handled on the operating table, and a study of the microscopic condition of the organ in a living patient, are of superlative importance, yet the only scientific procedure to pursue to obtain anything like an accurate knowledge of the *status presens* of a kidney under operation, is to remove a V-shaped piece of the cortical and pyramidal tissues and study it microscopically.

After giving the technique of his own operation, the author affirms that in his opinion the excellent immediate results are due to the relief of kidney tension, and that the permanent benefit accrues in the cases demanding it from the establishment of collateral circulation with the diseased cortex. There are many instances of the formation of vascular adhesions in different parts of the body to support this latter fact. He regards decapsulation of the kidney in acute, sub-acute and chronic nephritis, both interstitial and parenchymatous, as a prac-

tical and effectual surgical procedure, but by no means a panacea for Bright's disease.

Details of Technique in the Application of the Graduated Divisor—Interpretation of Results.—CATHELIN (*Ann. des Mal. des Org. Urin.*, June 15, 1903).—Good reports continue to appear from the use of Cathelin's bladder divisor. The author has made several improvements in the instrument, and especially now furnishes three sizes of membranes for bladders of different capacities. He gives minute details for manipulating the instrument, the patient, etc., and publishes numerous cases of various kidney and bladder affections in which the divisor was of signal service.

The Boy's Venereal Peril.—VALENTINE (*Jour. A. M. A.*, July 4, 1903).—The author considers the method of teaching the people concerning venereal diseases, the dangers of these diseases and the common ignorance upon the subject. He adds to his paper in reprint, but does not publish it in the journal, some remarks addressed to boys, and in language easily understood by them. In these remarks the following subjects are considered:

1. The evidences of awakening generic tendency.
 2. Masturbation and the impulses or defects that lead thereto.
 3. The evil influences that mislead youths into immorality.
 4. Prostitution, public and clandestine, and the mental and physical destruction they bring.
 5. Gonorrhea, chaneroid, chancre, and their sequelæ.
 6. Advertising quacks, nostrum venders and an expose of the methods they employ to swindle those afflicted with real or imaginary genito-urinary and other ailments.
 7. The reasons why a youth with a real or fancied illness due to immorality should consult a physician whom he knows, or whom his father knows.
 8. The reason why reputable practitioners do not advertise.
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Extraction of a Fœtus of About Three Months from the Vesical Cavity of a Woman.—GUISY (*Ann. des Mal. des Org. Urin.*, June 15, 1903).—This patient was a woman, thirty-six years of age, married for sixteen years, mother of four children, having had two abortions. According to her statement, she was four months pregnant when suddenly seized with complete retention of urine, which lasted almost twenty-two hours. Fifteen days before this, frequent and painful urination, with a discharge of small, hard bits having a cadaveric odor mixed with clots, took place, later becoming more purulent, bloody and fetid, while the vaginal flow was sero-bloody and of quite a bad odor. Upon examination the bladder was full, distended, and reached a little above the umbilicus. In its cavity was a fœtus of about three months, fifteen centimeters long, which completely blocked the urethral canal. By enlarging the urethra through incision and dilatation, this was with some difficulty removed, and was followed by a considerable quantity of bad urine, full of clots and membranous debris. Under continuous bladder drainage and antiseptic lavage the patient made a complete recovery in eighteen days. It is supposed in this case that primarily there were adhesions between the right fallopian tube and the bladder. And that this was a case of extra-uterine pregnancy, in which there was a gradual passage of the fœtus from the tube into the bladder.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

On an Urticarial Skin Affection.—HARTMAN (*Archiv f. Dermat. u. Syph.*, March, 1903; *Brit. Journ. Derm.*, July, 1903).—In this contribution the writer describes seven cases of what is usually named "urticaria perstans." The majority of these cases occurred in the dermatological clinic of Dr. Herscheimer at Frankfurt. The leading symptoms present in these cases were itching and a papular eruption with excoriations. The papules were rounded, indurated, reddish or reddish blue in color, and varied in size from a lentil to a ten-pfennig piece. The surface of the papules was smooth and somewhat shiny. Numbers of them were capped by a hemorrhagic crust from scratching. In one of the cases the surface of the lesion was verrucose. The eruption was widely distributed, but left the palms, soles and scalp free, and as a rule the face was little affected. The itching seemed to precede the papular eruption and sometimes had existed several years before the first papule appeared. The itching, as a rule, was not universal at first, but began on one of the extremities. In none of the cases was there evidence that any of the lesions began as an ordinary wheal. It is a disease of adults and begins usually after the patient has reached the age of twenty; it seems to be equally common in either sex. The condition differs from prurigo of Hebra in that the lesions are larger and fewer, and in that it affects the flexor aspects of the joints and limbs. A histological examination of two of the cases showed chronic inflammatory changes in the skin, a cellular infiltration in the corium around the blood vessels, glands and in the papillae, and a diminution of the elastic fibers. The epidermis was secondarily affected, the prickle-cell layer being thickened, and there was hyperkeratosis of the horny layer in some places and parakeratosis in others. After discussing the literature at considerable length, the writer concludes that we have to deal in this affection with a chronic pruritus associated with a papular or verrucose eruption which is secondary, and is probably the result of mechanical irritation.

Erythemata as Indications of Disease. (The Annual Address to the Dermatological Society of Great Britain and Ireland.) JAMES GALLOWAY, M. D., (*Brit. Journ. Derm.*, July, 1903).—Perhaps the most satisfactory way for considering this group of eruptions is by dividing them into a simple erythemata the result of hyperemia, transient in character as a rule and causing no change of a permanent nature in the structure of the skin; and the exudative erythemata in which, as the result of hyperemia, transudation and exudation, as well as of actual inflammation, changes in the structure of the skin occur, which are apt to be of some duration, or, in certain cases, permanent. The latter group is the larger and by far the more important.

Simple erythemata may develop nodular and increasing lesions, and these nodular lesions may arise quite apart from tuberculosis causation. This is verified by cases cited by the author, the simple erythemata indicating serious disturbance of nutrition. The most frequent indication being a certain degree of tachycardia and the serious tendency of the skin to severe injury from trivial traumata. The most simple of the forms of erythemata may pass on to true exudative lesions; and in the case of symptomatic erythemata of contagious diseases, it becomes very difficult to decide whether they should be classified as belonging to the simple or exudative forms. The pigmentation and desquamation are proofs of exudation. There are several forms of erythemata due to bacterial and protozoan infection.

Evidences of visceral disorders and lesions of the alimentary tract, which is expressed in erythema (erythema multiforme), due to the ingestion of improper foods and toxin poisoning. The amount of clinical evidence is sufficient to draw particular attention to errors of digestion and metabolism in the causation of certain types. Osler, of America, emphasizes the close relationship between the erythema group and serious visceral affections; gastro-intestinal disturbance, colic, dilatation of the stomach, nephritis, hemiplegia, inflammation of the lungs and joints, etc.

Relations of lupus erythematosus: In all of the forms of erythema, hitherto considered, the nature of the lesion is such that the formation of new fibrous tissue as the mode of healing does not occur, or only to such an extent as not to be appreciable as a scar. But it has long been recognized that there is a peculiar form of erythema which does produce atrophy of the skin and the production of scar, without ulceration and without infection by pyogenic influences. This disease is known as lupus erythematosus. The histological evidence of this disease lends no support to the theory of its tuberculous origin, nor has inoculation experiments with this tissue produced tuberculosis in animals. The nature of the inflammatory process in lupus erythematosus is obviously different from that of exudatory erythema, and yet it is possible it may be a difference due to the virulence of the poison and the peculiar state of the attacked tissue—that is to say, a difference of quantity rather than in the quality of the poison.

Clinical evidence strongly supports the opinion that lupus erythematosus is a disease which should come into close relationship with erythema exudativum, therefore the cause is probably a toxemia, arising from various sources, just as in erythema multiforme, but in the former there seems to be a tendency for easily produced paralysis of the vasomotor mechanism.

Coryza and Hereditary Syphilis.—DR. L. CARRALERO, Madrid (*Jour. Amer. Med. Asso.*, May 9, 1903), said at the International Medical Congress at Madrid, 1903, that the coryza of nurslings was one of the most constant, in the majority of cases the earliest, and at times the only symptom of precocious hereditary syphilis. The diagnosis presents difficulties when there are no other symptoms, but every case of purulent rhinitis in a nursling was to be regarded as symptomatic of a diathesis of syphilis. The condition is *per se* of serious import, inasmuch as it impairs the act of sucking and also leads to broncho-pneumonia and otitides. Treatment is by general anti-leucic courses and local measures.

A Clinical Report of a Case of Blastomycosis of the Skin from Accidental Inoculation.—NEWTON EVANS, M. D. (*Jour. Amer. Med. Asso.*, June 27, 1903).—The subject of the report is a physician who, in performing an autopsy on a case of systemic blastomycosis, accidentally inflicted a slight wound with a needle on the palmar surface of the left index finger. The wound healed. At the end of a week a small pustule appeared at the point, which was opened and evacuated. It reappeared after several days. This course of events was repeated several times till in the course of several weeks, when signs of acute inflammation appeared. The surface became swollen, red and tender. This was incised several times without improvement, the finger growing more painful, and the axillary lymph nodes became enlarged. A week after this the wound was curetted, the fungous granulations and tissue were scraped away down to the tendon. After two weeks the wound was crusted, when it was noticed that small pustules were forming about and beneath the crust, and a like patch on the back of the hand. The original wound finally healed, leaving a scaly area which is somewhat nodular and reddened about the edges.

In the tissue curetted from the wound typical, double contoured, budding blastomyces were found in great abundance, and exactly identical in appearance to the organisms found in immense numbers in the case on which the au-

topsy was performed. An interesting feature of the case was the appearance of symptoms resembling acute articular rheumatism fourteen days after the curetting of the wound. The left wrist and both ankles became swollen, hot and tender, and on the anterior surface of both lower legs there appeared raised, reddened and tender areas from one-half inch to two inches in diameter, which resembled erythema nodosum.

Aphthæ and Herpes—Contracted by Children Drinking Milk from Cows Suffering from Foot and Mouth Disease.—G. F. BRUSH (*Jour. of the Amer. Med. Asso.*, June 10, 1903).—Brush believes from his investigations that aphthæ and certain herpetic conditions of the mouth can be contracted by drinking the milk from cows infected with foot and mouth disease. He has gone to much trouble to visit districts where herds of dairy cattle have been so afflicted, and from this practical method of investigation he has come to the above conclusion. He says there is an aphthous condition of the young in both the bovine and human families that is non-contagious, and there is also an aphthous condition in both these species that is contagious, and the similarity between the contagious and the non-contagious in both families is so marked, clinically, that it is very difficult to separate them. The simplest way to diagnose between contagious and non-contagious stomatitis aphthosa in the milk-fed young is to stop the milk. Then, if the milk was the cause, the diagnosis is made and the affection cured.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Anæsthesin in the Treatment of Inflammatory Conditions of the External Auditory Canal.—HAUG (*Archiv fuer Ohrenheilkunde*, Band 58, Heft 3 und 4) gives his experience with anæsthesin in the treatment of inflammatory conditions of the external auditory canal, and as a local anæsthetic for performing paracentesis of the drum membrane. Solutions of the drug in oil 1-50 or 4-50, or in combination with glycerin, carbolic acid, menthol, and thymol were employed. These solutions were applied to the canal with cotton applicators or simply instilled and allowed to remain. He found that in the great majority of cases the pain was relieved in from two to ten minutes, the effect lasting two hours or longer without renewing the application. In some cases the pain returned very quickly and in others there was no apparent relief. As a local anæsthetic for performing paracentesis, he found that it was not absolutely reliable, giving complete anæsthesia in some and failing in others.

A Case of Paraffin Injection Into the Nose Followed Immediately by Blindness from Embolism of the Central Artery of the Retina.—HURD and HOLDEN (*Medical Record*, July 11, 1903) report another unfortunate result following paraffin injections for cosmetic purposes. The case was that of a man aged thirty, who had the paraffin injected to be relieved of a saddle-shaped nose. Two previous injections had been made without any ill effects; while the third injection was being made the patient was seen to rub his right eye, and he at once noticed that he could not see with it. A little later ecchymosis appeared about the tip of the nose, indicating that a vein had been punctured. The appearance of the eye ground after the accident revealed that the main inferior branch of the central artery of the retina and its division to be empty and collapsed. All attempts

to overcome the total blindness failed. How the embolus made the round of the circulation is not clear. Dr. Evans suggested the possibility of the patient having a persistent foramen ovale, which would make an escape of the pulmonary circulation possible.

Nasal Polypi.—A Study of One Hundred and Forty-seven Cases.—CLARK (*Boston Medical and Surgical Journal*, July 2, 1903).—After a study of one hundred and forty-seven cases of nasal polypi the author concludes that our knowledge of them is still very unsatisfactory. He emphasizes the following points: (1) The question of a previous injury to the nose is to be considered in the etiology of polypi. (2) Probably only a small proportion of cases are caused by sinus disease (usually ethmoiditis). (3) A local vasomotor disturbance, which may be of constitutional origin, stands in a causative relation to polypi in a certain number of cases. (4) The removal of the middle turbinate will be found necessary in many cases where the growths are diffuse. (5) Many cases of nasal polypi can be cured if patients will return for treatment as instructed. He believes the best way to remove nasal polypi is by the cold wire snare and does not believe in cauterizing the pedicles with either the galvanic cautery or acids. He has tried the application of 95 per cent. alcohol and found it to be of some benefit.

The Wisdom of Removing Enlarged Tonsils Whenever Enlarged and Diseased.—LAUTENBACH (*Pennsylvania Medical Journal*, June, 1903).—The author believes that enlarged tonsils are always a menace to health and that they should be removed, unless there are unusual complications. The operation is not difficult and is rarely followed by serious results, but is attended with increased health, better respiration and improved digestive function; there is a lessened liability to microbic diseases, especially diphtheria, and as a rule there will be an improvement in the nasal catarrh, which is usually present. The lymphoid structures in the pharynx will disappear, there will be no more tonsillitis and the tendency to ear disease will be diminished.

The Indications for Operative Intervention in Middle Ear Suppuration.—POTTS (*The American Journal of the Medical Sciences*, July, 1903) states that no definite rule can be made for these cases, for each must be studied upon its own merits. The chief point in the diagnosis is to determine the cause of the discharge. If the latter consists chiefly of stringy, ropy mucus, the exciting cause will usually be found in the Eustachian tube or nasopharynx; but if the discharge is seropurulent or a creamy pus, especially if profuse and of long duration, the tympanum and antrum must be looked to. Careful search must be made for necrosed bone and if found should be treated on surgical principles. Curetting must be done and thorough drainage established; if these measures fail, more radical treatment will be found necessary, and the question of an operation on the antrum and mastoid must be decided.

In concluding his article the author gives a brief review of the symptoms indicating operation in many cases of chronic suppurative otitis media, as follows:

Profuse and long-continued discharge suggestive, but not diagnostic, of antrum or mastoid involvement.

The fluctuating swelling over the mastoid is diagnostic when present, but its absence not contraindicating operation. Edema behind the auricle is more apt to be due to furuncle. Tenderness over the mastoid, especially if persistent, is of great significance, but this may be doubtful or even absent if the outer table is sclerosed.

The inflamed, tender, and bulging upper posterior canal wall is one of the most important signs, and its non-relief by treatment is a sure indication for

operation. A sinus, whatever its location, leading into the mastoid is a positive indication.

Facial paralysis is of interest, but not important.

Epileptiform attacks usually indicate possible cerebral pressure.

Marked and rapid failure of health is more apt to be found in adults than in children.

The rapid fluctuations of temperature are important signs and usually indicate pyæmia.

The slow and thready pulse out of proportion to the elevation of temperature, irregular or sluggish pupils, rapid failure of health, rigors or convulsions are signs of intracranial pressure.

Tenderness and edema over the occiput are very apt to be present when the sinus is thrombosed.

Otitis Media in Infancy.—MORSE (*Journal American Medical Association*, July 18, 1903) believes that the profession as a whole do not realize as it should the frequency of otitis media in infancy and its importance in differential diagnosis. The author claims that many awkward mistakes would be avoided if the ears were examined, even when the signs of other conditions are present. He says it is a mistake to think that inflammation is always associated with earache, for there are many infants with acute inflammation of the middle ear that show no signs of pain at any time. The only way to determine satisfactorily whether or not there is inflammation of the middle ear, is to examine the ear with the speculum; all other methods of examination are incomplete and misleading. The writer admits that the examination of an infant's ear is no simple matter, but claims the results obtained are well worth the time required to master the technic.

Acute inflammation of the middle ear is usually associated with fever, which may be high. It can cause many reflex symptoms, such as convulsions, etc., but, according to the author, acute inflammation of the middle ear is more often mistaken for pneumonia than for any other condition. Several cases are reported in detail.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Subretinal Cysticercus in the Macular Region.—GALEZOWSKI (*Rec. d'Ophtalm.*, April, 1903).—Eighteen months prior to coming under observation, the patient, a healthy young man, noticed failure of central vision of the right eye with occasional flashes of light, often assuming the form of a "zigzag." Examination showed: R. eye, V. = 1-10 excentric (central scotoma). Ophthalmoscopically the macular region was occupied by a round, smooth, shining, grayish-white mass, clearly demarcated from the surrounding tissue and projecting somewhat into the vitreous. Laterally four pseudopodia-like processes emerged. Above was a cylindrical neck containing the head of the cysticercus which, according to the writer, could be seen to advance toward the vitreous and retract beneath the retina. Otherwise the choroid was healthy. One month later the cysticercus had projected still further into the vitreous.

Galezowski proposes the following operation: Incise Tenon's capsule near the rectus externus. Seize the globe and draw it inward as far as possible. Then make an incision 1 cm. long through the sclera and choroid, as near as possible to the site of the cysticercus. The choroid will push into the gap, and the contained cysticercus may then be cut off and the wound cauterized.

Three Essential Points in the Operation for Cicatricial Ectropion.—F. C. HOTZ (*Jour. A. M. A.*, May 2, 1903).—The points alluded to are: (1) the proper division and fixation of the skin flaps; (2) the selection of the most suitable material for covering the lids; (3) the shortening of the overstretched lid border.

(1) To avoid re-eversion of the upper lid, the lid flap is attached to the upper border of the tarsus and below to the free margin of the lid; while a second (skin) flap has its point of purchase outside of the lid, and cannot, therefore, disturb the position of the lid margin. In the lower lid the lid flap must be fastened to the tarso-orbital fascia to restore the normal boundary line (Arlt's tarsomalar furrow) between the lower lid and the cheek.

(2) The skin of the normal lid is thin, light and adaptable; it adjusts itself readily to slight changes in contour. The thick skin of the forehead, temple and cheek does not possess these qualities, and is unsuitable for transplantation; the same is true of a Wolfe flap taken from the arm. Hotz advocates the use of the cicatricial skin usually found in the neighborhood of an extensive ectropion, or failing this, a Thiersch graft.

(3) The lid margin is elongated by the downward traction of the cicatricial tissue, and will not closely fit the curvature of the globe after reposition. To obviate this difficulty, Hotz shortens the lid margin by removing a small piece near the outer canthus.

The technic of the operation on the upper and lower lids is fully described.

Two Cases of Sympathetic Ophthalmia.—VALOIS (*Rec. d'Ophtal.*, April, 1903).—In sympathetic ophthalmia, especially in the type which assumes the form of a serous iritis or choroiditis, treatment by subcutaneous injection and inunction of mercury often fails to prevent the progress of the disease toward blindness. Moreover, these methods involve saturating the system with great quantities of the therapeutic agent in order to impress the diseased organ. Assuming that the disease is due to an infection, is it not more rational to inject the remedy at the site of infection? Darier and others advocate the injection of mercurial salts into the cellular tissue of the orbit of the enucleated eye, and subconjunctival and intra-tenonian injections of sublimate in the sympathizing eye.

In the two cases reported all the usual methods were tried unavailingly, and improvement began with the first intraorbital injection.

In both cases enucleation, far from improving the condition of the sympathizing eye, seemed to give a fresh impetus to the disease.

Case 1.—The sympathizing eye presented a cloudy aqueous, deposits on Descemet's membrane and posterior synechiæ. The fellow eye (staphylomatous following an iridectomy) was enucleated and the optic nerve resected as far back as possible. Under atropia locally and subcutaneous injections of cyanate of mercury, the deposits on Descemet's membrane increased, flocculi appeared in the vitreous and vision diminished to 2-10. At this stage six drops of a solution of cyanate of mercury (1 centigm. to 1 c.c.) was injected into the cellular tissue of the orbit of the enucleated side. The following day vision had risen to 4-10, but had diminished again by evening. Five injections at intervals of two days were given, each producing slight, but transient improvement in vision. The case passed through a period of increased intraocular tension (controlled by eserine) alternating with exacerbations of iritis with the formation of synechiæ (con-

trolled by atropia). From this time on improvement was rapid and vision ultimately rose to normal.

Case 2.—Sympathetic ophthalmia following penetrating wound at sclero-corneal margin. Enucleation and exhibition of the usual remedies failed to check the disease, the symptoms including muddy aqueous, descemetitis, chemosis, edema of the lids, severe pain and diminished vision.

Intraorbital injection of cyanate of mercury was followed, in twenty-four hours, by subsidence of the pain and disappearance of the chemosis and edema of the lids. Pupil dilated *ad maximum* and vision improved. Injections were continued tri-weekly for a fortnight, and then replaced, on account of unbearable pain, by intravenous injections. Ultimate vision, 8-10.

The method has the disadvantage of being very painful and of producing at times an edema of the corresponding side of the face.

Remarks on Simulated Concentric Contraction of the Visual Field.—BICHELOPPE (*Ann. d'Oculist.*, April, 1903).—The patient, a young soldier, was thought to be a somnambulist. The ocular examination disclosed: R. eye, V. = 1, L. eye, V. = 0.6. Emmetropia. Fundus normal in both eyes. The visual fields for white and colors were found concentrically contracted. Repeated examinations by different observers gave practically identical fields. Variation in central vision led to the suspicion of dissimulation, and the patient, asked to make a clean breast of it, confessed that he had simulated the attacks of somnambulism and had replied falsely to the visual tests. Two months later fields and vision were normal. Bichelonne found experimentally that an individual could, at will, reduce his field concentrically and that subsequent examinations would practically coincide with the first. The contraction, however, was always concentric and of high degree. The phenomenon is, in fact, merely the substitution of the limits of fairly distinct vision for the limits of the perception of white and colors.

Several tests for the detection of malingerers are described.

BOOK REVIEWS.

MATERIA MEDICA, THERAPEUTICS, MEDICAL PHARMACY, PRESCRIPTION WRITING AND MEDICAL LATIN. A Manual for Students and Practitioners. By WILLIAM SCHLEIF, Ph. G., M. D., Instructor in Pharmacy in the University of Pennsylvania. Second edition, pp. 389. In Lea's Series of Pocket Text-Books, edited by Bern B. Gallaudet, M. D. 1902. Lea Brothers & Co., Philadelphia and New York.

This volume affords a condensed yet comprehensive text-book and work of reference on materia medica, therapeutics and a range of cognate subjects which can be grouped together with manifold advantage. In addition to the paragraphs covering the physical properties, physiological action, therapeutics and toxicology of each medicinal agent, it contains chapters on prescription writing, medical latin, medical pharmacy and practical anesthesia. Tables of doses, of poisons and antidotes and of incompatibilities, together with a therapeutic and a general index, conclude a volume which may prove of service to practitioners as well as to students. It contains in concise, definite and assimilable form the essential knowledge required in the ordinary college course on materia medica and therapeutics.

A TREATISE ON DISEASES OF THE EYE, NOSE, THROAT AND EAR. For Students and Practitioners. By Various Authors. Edited by WILLIAM CAMPBELL POSEY, A. B., M. D., and JONATHAN WRIGHT, M. D. Illustrated with 650 engravings and 35 plates in colors and monochrome. 1238 pages. Lea Brothers & Co., Philadelphia and New York.

In the production of this excellent treatise the editors have enlisted the services of twenty-seven authors, who have been chosen for special fitness in connection with the subjects assigned. The section on diseases of the eye numbers 666 pages, that on the nose and throat 384 pages, that on the ear 263 pages. Each author has been permitted to cover his subject in its entirety, thus largely obviating the repetition which has constituted a serious defect in former systems.

The book may fairly be said to fill a gap in American medical text-books. The day has passed when the specialist in ophthalmology, for example, can afford to be ignorant of the fact that many cases of frontal and temporal headache accompanied by symptoms of asthenopia are in reality due to obstructive disease of the nasal accessory sinuses; such cases do not yield to the most careful refractive correction, to tenotomies, or to prisms, but clear up as if by magic on correcting the nasal abnormality. Indeed, it is daily becoming more and more evident that the pathologic relations of the structures under consideration are precisely what might be expected from their anatomic juxtaposition. The present and future specialist in any one of these branches must at least have a general survey of the field worked over by his colleague in a cognate branch. This volume, containing, as it does, an adequate exposition of each of the related specialties, will strongly appeal to the ophthalmologist, the rhinologist, the laryngologist and the otologist, affording him an opportunity of refreshing his knowledge on essential points. It will be useful, also, to the general practitioner to help him to understand better the bearings of these affections on internal medicine.

The illustrations have, as a rule, been well chosen. It is unfortunate, however, that many have been used without acknowledgment of their source. Doubtless this will be corrected in later editions.

A TEXT-BOOK OF ANATOMY. By American Authors. Edited by F. H. GERRISH, M. D., Professor of Anatomy, Bowdoin College. Second edition, revised and enlarged; 1003 engravings in black and colors. Lea Brothers & Co., Philadelphia and New York. 1902.

This volume is in most of the essential features similar to the first edition, which it closely follows, and will be held in the same popular favor by students and teachers of anatomy. The arrangement of the subject-matter is along conventional lines, but the concise and clear descriptions make the book particularly valuable for students. The whole ground is completely covered in a manner most convenient for study either on the cadaver or away from it, but no attempt is made to enumerate anomalous findings, which might have wisely been added, lending interest and making the book more valuable as a reference book. An especially striking feature is the number and high character of the illustrations which have departed from the type so long familiar in older works, and either in a schematic or actual depiction of findings show conditions most clearly. The old nomenclature has been retained for the most part; rather a matter of regret, as the new nomenclature received the sanction of many of the most prominent anatomists of America, after its compilation by the foremost teachers of the world, and universal uniformity seeming a possibility of the near future, such an excellent work as the one in question should have accepted the new condition among the very first of American editions.

THE DUTIES OF THE INDIVIDUAL AND THE GOVERNMENT IN THE COMBAT OF TUBERCULOSIS. By S. A. KNOFF. Published by the Committee of the Prevention of Tuberculosis of the Charity Organization Society. New York.

In a few pages here is condensed an exceedingly valuable amount of information on tuberculosis and on its prevention. The diction is clear and popular, and will appeal to the mind of the public. The little work will certainly do much good in the great fight we are waging against this disease. As the main stress naturally is laid on the prevention of infection, mechanical measures serving this purpose are definitely and lucidly outlined, and it must be admitted that if the precautions advised would be observed generally, it might be possible to do a great deal toward success. Daily experience, however, shows how slow such a progress necessarily will be. Our spitting ordinance is by this time, a few months after its promulgation, a forgotten thing. So it will go for a long time with other rules. The exposure to infection is general, and, in fact, nearly every living human being really becomes infected at some time or other; the majority, however, have vitality enough to overcome this infection completely. On the other hand, we know that in ninety out of one hundred cases tuberculosis has existed, perhaps years before it is recognized; we still continue to wait for the appearance of tubercle bacilli in the sputum to make the diagnosis. How much could be done here to prevent infection, prevent a patient from becoming a disseminator of the virus. The reviewer thinks a pamphlet to the medical profession, explaining certain early symptoms and containing information about the method to establish or refute their tuberculous origin, would be of much wider reaching influence. Test a patient with tuberculin, and, when the reaction positively shows the presence of an infection, adopt the proper means, and we all know that these patients will almost invariably recover, without ever having expectorated a single bacillus. As long as tuberculosis means cough and expectoration, an annihilation of the disease remains impossible. All of these attempts to arouse the public mind to hygienic and mechanical care will be slow in effect and never will influence the community as a whole. In a limited way they will do good, and perhaps will prepare the course for more radical measures, but they alone will never eradicate the trouble.

The words of the author about the so-called consumption cures should everywhere become known, and government, state and city officers should see to it that this great evil is abolished. The assertion that there is no specific treatment for tuberculosis is perhaps too radical, as the author will certainly not deny the reliability of the reports that are daily increasing on the beneficial and specific effects of the treatment with Koch's tuberculin.

MATERIA MEDICA AND THERAPEUTICS. By DR. ROBERTS BARTHOLOW. Eleventh edition, revised and enlarged. D. Appleton & Co. 1903.

After an interval of four years this well-known text-book is again before us in a new edition. In the preface the author maintains that he has always tried to preserve the practical character of the work as a storehouse of facts. In spite of the modern tendency to develop physiological experimentation in pharmacology, the author believes that empirical knowledge, supported by careful clinical work and improved by sound induction, should not be neglected.

The general scheme of the work will be familiar to most readers. A short bibliography appended to each article adds much to its value as a book of reference. In general, however, there is a tendency to give too many indications for the use of the various drugs. This tendency we have noted in other text-books on therapeutics, and believe it does much to confuse the physician, and, above all, the student. Reports of beneficial effect of drugs in certain diseases are often based on one or two cases, and such reports do not deserve to be noted unless further extensive tests show that this beneficial effect was not a mere coincidence. To give an example, we have the following indications given for ergot: Chronic diarrhea, dysentery, conjunctivitis, oerivicitis, pharyngitis, gonorrhea, acne rosacea, hemorrhoids, relaxation of the sphincter ani, prolapsus of the rectum, enlarged heart, aneurisms, hemorrhagic diathesis, epistaxis, hemoptysis, menorrhagia, subinvolution of the womb, recurrent mania, epileptic mania, chronic mania with lucid intervals, migraine (!), epidemic cerebro-spinal meningitis, acute myelitis, blepharitis, phlyctenular ophthalmia, chronic metritis, uterine fibroids, polypi of the uterus, congestive dysmenorrhea, incontinence of urine, spermatorrhea, paralysis of the bladder, diabetes inspidus, uterine inertia during labor, post-partum hemorrhage, hypodermic injection for varicocele, deficient erections and loss of the capacity for coitus. It sounds almost like a patent medicine advertisement to find ergot recommended for so many conditions. Above all, the important indications are not sufficiently emphasized, or are even given wrongly. We find ergot recommended for inertia in the second stage of labor, an indication that, in spite of the reservations made, is absolutely to be condemned. We also miss a discussion of the properties of ergotol and ergot aseptic, which at least deserve mention.

In the four new articles of his text-book Bartholow takes up Chloretone, Dormiol, the Roentgen Rays, and Yohimbin.

BACTERIOLOGY. A Manual for Students and Practitioners. By FRED C. ZAPPE. Lea's Series of Pocket Text-Books. Philadelphia: Lea Brothers.

Aside from the fact that the author has omitted to deal with any questions of merely scientific interest or with problems as yet under discussion, his book has no characteristic features that would differentiate it from others on the same subject. It contains a very plain and concise representation of what most people understand as bacteriology, although the conciseness sometimes leads the author to statements that cannot very well be upheld. So, for instance, it might be risky to say that in all abscesses staphylococci were found, or that for subcutaneous injections "mice are used." Similar lapses abound in the book, due to the attempt to be as short and direct as possible.

DISEASES OF THE HEART AND ARTERIAL SYSTEM. By ROBERT H. BABCOCK, A. M., M. D. D. Appleton & Co., New York and London. 1903.

This extensive work, comprising 850 pages of printed matter with many illustrations and plates, deals more particularly with the physical diagnosis and treatment of heart diseases. The author does not lay claim to great originality, but says that he has compiled the present work from various sources. Personal experiences are freely interspersed. The style is entertaining and the whole book is very logically put together. It begins with general considerations pertaining to the anatomy, physiology and examination of the heart. Then follows a discussion of the various diseases of the pericardium and endocardium. At the conclusion of the latter come three chapters on the treatment of valvular heart disease: (1) compensation being still perfect; (2) compensation being imperfect; (3) compensation lost. Under heading (2) he considers in detail the Schott exercise and bath treatment. This he has used with considerable benefit, but emphasizes that it should not be given to cases where compensation is wholly lost.

Further subdivisions of the book are Diseases of the Myocardium; Cardiac Neuroses; Diseases of the Arterial System. In the Appendix are three short articles on the X-ray, the Sphygmograph, and Gaertner's Fonometer. All three of these methods are considered valuable adjuncts in diagnosis. Of the fonometer he says that it may be used for comparisons of blood-pressure changes in the same individual with great benefit, while among different individuals much more caution must be observed. In all three instruments the details of technique must be mastered before results become really trustworthy.

We regret the absence of bibliographical references in this otherwise complete work. The illustrations are, on the whole, very good. This is less true of the colored plates than it is of the numerous photographs.

A TEXT-BOOK OF PATHOLOGY AND PATHOLOGICAL ANATOMY. By DR. HANS SCHMAUS. Translated from the Sixth German edition by A. E. Thayer, M. D. Lea Brothers & Co., Philadelphia and New York. 1902.

This volume is an excellent one for the student of medicine. It takes up general pathology in the first part of the work, and special pathology or pathological anatomy in the latter half. Possibly the latter half represents a part of pathology that is usually neglected in the standard English text-books. Too little attention is paid in this country to the study of gross pathology. Schmaus follows about the same plan that is pursued in the classic work of Orth on Pathological Anatomical Diagnosis. In fact, this portion of the book looks wonderfully like the lines of Orth. We can, therefore, recommend this book to the student of medicine.

A TEXT-BOOK OF CHEMISTRY. For Students of Medicine, Pharmacy and Dentistry. By EDW. CURTIS HILL. Philadelphia: F. A. Davis Co. 1903.

The construction of this book is instructive from the point of view that has governed it. In writing it the author saw always before him the material of pupils coming to hear his lectures with their, on the average, insufficient knowledge of the elementary principles of physics, chemistry and natural sciences. Therefore the book nowhere presupposes anything, and everywhere the greatest simplicity and clearness obtains. The interest is heightened by many excursions into subjects that usually are not expatiated upon in such text-books, but which by their practical importance compel the attention of the reader for the chemical questions concerned with them. Perhaps it would be better if there would be no necessity for such books and that students ought to be advanced enough in

their general education not to need them, but since these conditions still obtain, the book will be well received. And it deserves it, as the text is throughout carefully written and free from superficialities and misstatements.

PROGRESSIVE MEDICINE. Fifth Annual Series. Volume II, June, 1903. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 427 pages, with 46 illustrations. Per volume, \$2.50, by express prepaid. Per annum, in four cloth-bound volumes, \$10.00. Lea Brothers & Co., Publishers, Philadelphia and New York.

A glance through this volume will suffice to show the reader the fatuity of attempting to keep up with the progress of scientific medicine unless he can avail himself of such a work. The enormous amount of material which it contains is the more astonishing when it is realized that it represents only what is of real scientific and practical value in current medical literature. This volume contains the following contributions: Surgery of the Abdomen, Including Hernia, by William B. Coley, Gynecology, by John G. Clark; Diseases of the Blood and Ductless Glands, the Hemorrhagic Diseases, Metabolic Diseases, by Alfred Stengel; Ophthalmology, by Edward Jackson.

THE EXPECTANT MOTHER. A Treatise on the Care of the Expectant Mother during Pregnancy and Child-Birth and the Care of the Child from Birth to Puberty. By W. LEWIS HOWE, M. D. Pages 8-63. Size, small 12mo. Extra cloth. Price, 50 cents, net, delivered. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry street.

This little volume embodies in a concise and clear way all that a pregnant woman should know about the care of herself during pregnancy, and the care of herself and the child after birth. It will prove extremely useful if placed by the attending physician into the hands of all women pregnant for the first time.

THE MEDICAL AND SURGICAL USES OF ELECTRICITY. By A. D. ROCKWELL, A. M., M. D. New edition. E. B. Treat & Co., New York. 1903.

This book includes as well a discussion of the therapeutic value of the X-ray, the Finsen light, vibratory therapeutics and high frequency currents. The nutritional influence of electricity is now, as always, the central idea of the work. In consequence, the author extends the indications for its use to very wide limits. The first 75 pages are devoted to electro-physies, an elementary description of the fundamental facts concerning electric laws and appliances sufficient for ordinary work. The book is plentifully illustrated.

VERGLEICHENDE ANATOMIE DER WIRBELTHEIRE. By CARL GEGENBAUER. In two volumes, with 619 figures. Leipzig: Verlag von Wilhelm Engelmann. 1898.

These two volumes, by the well-known anatomist, Gegenbauer, on "Comparative Anatomy of the Vertebrate Animals," represent a wealth of knowledge on this subject. The subject has been carefully classified and the anatomy of the several vertebrates carefully described. The illustrations assist the text in describing anatomical make of the different vertebrates. Some description is also given of the invertebrates. These two volumes give a fund of information

on this subject that could only otherwise be obtained by wading through literature of anatomy for many decades back. The original work of the author, of course, gives the stamp of excellence to the work. It can be recommended to those who desire information on the subject.

CELLULAR TOXINS OR THE CHEMICAL FACTORS IN THE CAUSATION OF DISEASE. By VICTOR C. VAUGHAN, M. D., LL. D., Professor of Hygiene and Physiological Chemistry in the University of Michigan, and FREDERICK G. NOVY, M. D., Sc. D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. Fourth edition; revised and enlarged. Philadelphia and New York: Lea Bros. & Company.

Vaughan and Novy—names inseparably connected with original work in the toxicology of the cell—have rewritten their original work under this new name. When their first edition came out, it was generally supposed that the chief factors in the causation of infectious diseases were the basic products of bacterial life. It is now supposed that the synthetic products of the cells themselves are in part responsible for the phenomena of infection and immunity. The volume gives the complete literature on the several infectious diseases—tetanus, anthrax, etc.—without, however, the bibliography of former editions, which has been omitted for want of space. The ptomaines, the side-chain theory of immunity and the chemistry of the leucomaines, are given in admirable form. This work of Vaughan and Novy certainly should be read by every up-to-date physician who wishes to obtain a clear conception of the modern idea of infection and immunity.

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NO. 9.

ORIGINAL ARTICLES.

ADDITIONAL CASES IN WHICH THE AUTHOR'S SILVER FILIGREE WAS USED FOR THE RADICAL CURE OF ABDOMINAL HERNIA.

BY WILLARD BARTLETT, A. M., M. D., of St. Louis, Missouri,

DEMONSTRATOR OF SURGICAL PATHOLOGY, MEDICAL DEPARTMENT OF WASHINGTON UNIVERSITY.

My first seven cases of this kind were published in the *Annals of Surgery*, July, 1903; but since writing that article, experience and reflection have taught me a few technical points which I consider essential to the most successful use of the contrivance, hence I submit here the reports of three additional cases which illustrate the points in question.

Formerly it was my custom to use a gauge 27 silver wire, but now I never employ one heavier than gauge 30, which I find to be sufficiently strong, as well as decidedly more pliable. In fact, a filigree constructed of the latter is surprisingly more supple than the other, and the complete success attained by the use of the contrivance must be attributed to the fact that it adapts itself perfectly to the movements of the abdominal muscles, as well as holds back the viscera.

It has been found of advantage to change the shape of the filigree; formerly I used one of the shape shown in cut No. 1, but latterly it has seemed to me logical to take the average hernial opening as my pattern; that is I have, as cut No. 2 will show, fashioned it so that it is broadest where the pathological opening has its greatest cross dimension, or in other words, the filigree presents the maximum length of wire at its middle where the strain is greatest. It is further considerably easier to introduce a contrivance of somewhat oval shape than one like cut No. 1.

After having operated upon ten of these cases, I am more than ever in favor of the principle which I elucidated in the article above referred to, viz., that all the wires shall run transversely across the field, with the exception of the single strand which binds them together and necessarily follows the long axis of the filigree. The technique of constructing, introducing and anchoring the contrivance has been so fully described in the *Annals of Surgery*, that I consider it quite unnecessary to make repetition of it here. Aside from the new matter here introduced, it is enough to state that more recent experience has served only to increase my estimate of the value which is to be put upon this rather modern principle in the treatment of those herniæ which cannot be, in many instances, successfully handled in any other way.

The above applies to the abdominal wall under stress of ordinary circumstances as regards the intra-abdominal tension; but the filigree will, as my cases show, do far more than meet these ordinary physiological requirements. Indeed

I can prove by two case histories that a filigree such as I have devised, when rightly implanted, enables the abdominal wall to successfully resist an intra-abdominal tension greatly increased as a result of pathological processes. Case No. 2 of my former series was operated upon more than two years ago for a ventral hernia, the result of Talma's operation for cirrhosis of the liver; I implanted a filigree and in spite of the fact that there has been a decided reaccumulation at times, the filigree has done all that could have been expected of it in an uncomplicated case; again I instituted like treatment (case No. 9, the second of the present series) for a post-operative hernia that had followed a laparotomy undertaken for the cure of tuberculous peritonitis. At the secondary operation considerable ascites as well as an extensive eruption of miliary tuber-

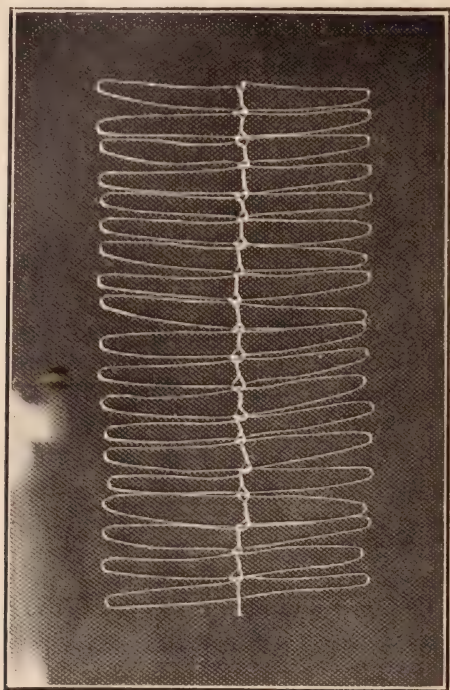


FIG. 1.

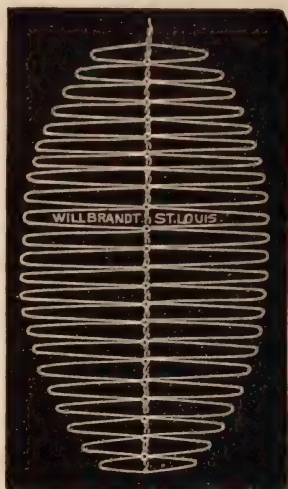


FIG. 2.

cles was encountered, and though the symptoms of chronic peritonitis with exudate have recurred, still there is no sign of hernia, at the expiration of two months, and it must be acknowledged that the filigree has made possible something which a simple plastic operation did not effect, something which cannot reasonably be expected of this last named procedure. In view of these facts, I trust that I may not be thought to go too far when *I suggest that such a filigree be implanted in every case at the initial operation, where there is a reasonable certainty that ascitic fluid will reaccumulate within the peritoneal cavity, no matter from what cause.*

The three additional cases which I here relate are all of them unusual, though different in every respect. The first is a large and rare "interstitial hernia," the second is interesting because it followed immediately upon a lapa-

rotomy which had been undertaken for the cure of tuberculous peritonitis, while the third is especially deserving of mention on account of its size and position, to say nothing of the problem it presented when the radical cure was first contemplated. My first seven cases were reported in the *Annals of Surgery* of July, 1903.

CASE 8.—Miss R., a maiden lady of fifty-one, had suffered from a gradually increasing enlargement in the right groin and side for about twelve years. The location and size of the mass at the time I first saw her, just before the operation, can be better seen in the accompanying photographs than described. Cuts Nos. 3, 4 and 5 were taken before the operation, and serve well to depict the unusual deformity. Her only subjective symptoms were excessive cramp colic at



FIG. 3.



FIG. 4.

times, together with an inability to do anything in the way of lifting because of the feeling of weakness and discomfort in the affected side thus engendered. It was impossible to reduce the mass to any appreciable degree, so one was forced to the conclusion that it had not come *directly* through an opening in the abdominal wall. However, there was a decided impulse on coughing, and as this seemed to come from the inguinal region, I naturally inferred that the eventration must have originated in that site. At the operation, which took place at St. Anthony's Hospital, June 22, 1903, a most interesting condition was discovered; the aponeurosis of the external oblique was found to be stretched over the sack, which lay, as large as an infant's head, between that structure and the internal oblique muscle. It had dissected its way up as high as the level of the umbilicus, within that trough which is limited on the outer side by the crest of

the ilium and on the inner by the blending of the aponeurosis of the external oblique with the anterior sheath of the rectus. This well-defined sack ended blind above, but below it gradually diminished in size to pass under the arched lower border of the internal oblique and on into the abdomen. Knowing the anatomical condition, it is now clearly explained why the patient could never at any time stand the pressure of an abdominal binder which had been applied under the false impression that the enlargement was due to a mere relaxation of the abdominal wall; the binder exerted no downward pressure, so did not tend to reduce the hernia, in the proper sense of the word, but merely compressed it between the layers in front and behind it, causing the patient no little discomfort, as a matter of course. The sack was found filled with small intestine and omen-



FIG. 5.



FIG. 6.

tum, dissected free, ligated and cut off short; then the internal oblique was sewn to Poupart's ligament. Under ordinary circumstances I should have simply sewn up the longitudinal slit in the aponeurosis, but that structure was so attenuated from the pressure behind that there was a considerable divergence between its component fibers. Fearing that this, which should be the strongest layer of the abdominal wall, would be unable to do its part toward maintaining the requisite strength of the whole, I placed a filigree five inches by two and one-half inches upon the muscle floor, and after shortening the aponeurosis till the fit was correct, sutured the same over the strong but delicate device. The network used here was of the older design, cut 1, which I no longer use, with parallel sides and square corners. No incident marred the recovery; the woman was out of bed in two weeks; there was no bulging or distress, and she ex-

pressed herself as having no abdominal pain for the first time in twelve years. I saw this woman almost three months after the operation, when she was still in perfect condition, the filigree having caused no trouble at any time. The affected segment is as pliable as that on the opposite side, so that the patient's movements are in nowise influenced, while the wires lie so deep that they cannot be palpated, and she is wholly unconscious that anything more than an autoplasmic operation was performed. Cut No. 6 gives a good idea of the present appearance of the abdomen; there was some relaxation of the left side before the operation, and now the condition is seen to be the same on the two sides; the operated side not being shorter or stiffer than the other, but just like it—that is, normal for this individual.



FIG. 7.



FIG. 8.

CASE 9.—Mrs. F., white woman, age twenty-four, tuberculous family history, had been operated upon six months before I saw her for tuberculous peritonitis and the exudate evacuated. A gauze drain had been left in place and the woman kept in bed for three weeks. Immediately upon leaving her bed she had noticed a bulging of the scar, this having gradually increased to the dimensions of a goose-egg, though she had been but little upon her feet up to the time I saw her; in fact, she preferred remaining in bed to experiencing the symptoms which the hernia produced when she was up. These consisted, as they usually do in these cases, of cramp colic alternating with seasons of constipation. The operation was done July 18, 1903, at the Female Hospital. After the skin scar and the sack had been removed, the opening in the peritoneum was closed with Halsted wire loops which included the edges of the recti. Upon the bed

thus formed was placed a filigree like that shown in cut 2, four and one-fourth by two and one-half inches in size, over which the rectus sheath was partially sewn. There remained a gap of almost an inch between the edges of the sheath in the middle of the wound, a condition which must have rendered a recurrence certain, had no such artificial aid been at command. But as experience in these ten cases has shown, it does not matter much what one does with the other layers of the wall so long as he has at command plenty of peritoneum, skin and the proper sort of filigree. After a skin suture the patient was placed in bed where she remained for three weeks without anything marring the recovery. When she was up and around the hospital a few days later there were no symptoms of hernia to be sure, and, indeed, none which called attention to the presence of the filigree. When I last saw her, September 8, 1903, she was a well woman so far as the abdominal wall was concerned, though there were evidences of

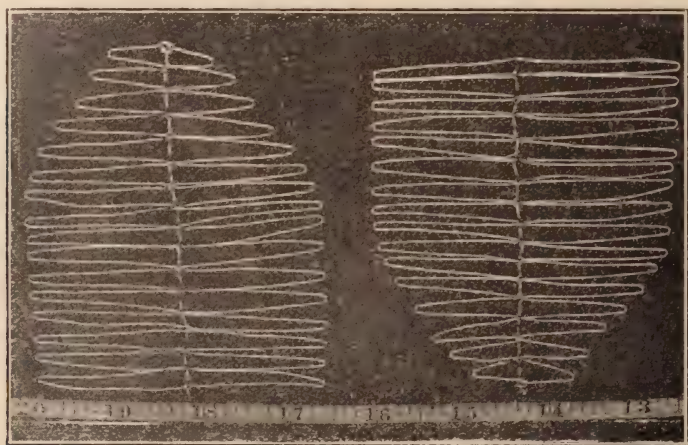


FIG. 9.

the persistence of the chronic peritoneal disease. This can only serve to make the test of the filigree the more severe.

CASE 10.—Mrs. T., colored woman, age forty-three. She had been operated upon six years before I first saw her, the uterus having been removed. She had spent six months in bed before the widely-drained wound had closed, so had had every chance of escaping a hernia. There had, however, been a marked bulging of the scar even before she was out of bed (coughing, etc.). This had gradually increased in size up to the time I first saw her, when it had assumed the remarkable proportions and appearance shown in cuts Nos. 7 and 8. The symptoms in this case were most marked. In addition to the usual colic and constipation, there was such a marked feeling of weakness and abdominal distress upon standing, that I could hardly keep the patient in the erect position long enough for me to take the two photographs just referred to. In short, the woman was a physical wreck, as might be well expected when I relate that the opening in the firm structures of the abdominal wall had a diameter of four and one-half inches, being almost round. I operated upon her July 20, 1903, at the Female Hospital, finding no trouble in reducing the herniated small intestine and in excising the sack. The wound in the peritoneum was sewn up together with

all the layers found behind the rectus muscles, the posterior aspects of which had been extensively bared by blunt dissection. Within the cleft thus formed I implanted a filigree unlike any I have described and consisting of two segments. Each of these segments was really two-thirds of a filigree like No. 2, as far as length is concerned, the width being unchanged. Each of these segments was four by three and three-eighths inches large, and when they had been introduced so that the broad ends overlapped, there resulted a net whose dimensions were three and three-eighths by six inches.

With the muscle wound held well open, the narrow end of the lower segment was anchored by a suture to the periosteum of the pubic bone, and the narrow end of the upper one was fastened in similar manner to the fibrous linia



FIG. 10.



FIG. 11.

alba, as high up as the under surface of the recti muscles had been undermined; then the two overlapping segments were united by a single wire, which bound the longitudinal connecting bar of each firmly together. Cut No. 9 shows the outline of these two segments, and the appearance presented by the overlapped broad ends can be imagined. The edges of the recti could now be completely joined over the contrivance, but the anterior sheath could be approximated in only a part of the wound, leaving a gap of perhaps an inch. The skin was sewn tight and the woman kept in bed three weeks, everything having healed per primam. Her condition on getting up was most gratifying; the photographs taken a few days later show that there was no more hernia, refer to cuts No. 10 and No. 11; while the subjective manifestations were equally satisfactory, there was no more colic or weakness, in fact not a symptom of any kind, her very fa-

cial expression was different, she was indeed a new woman. I saw her nearly two months after the operation when her strength had been entirely regained and the anatomical condition was all that could be desired.

In closing, I wish only to call attention to this latest improvement in the technique, viz., that of implanting the filigree in segments. By so doing the operation is rendered much easier, it having been found difficult to introduce in one piece a delicate filigree, which must of necessity be larger than the opening which it is to block. Even with the best of wound retraction it was always more or less bent. In this way one is relieved of the fear that a ready-made filigree may not fit the wound for which it be intended (and this can never be accurately judged before the dissection has been made); and it is by this method alone that the surgeon can hope to fill out the entire gap which he has made between the tissue layers, thus implanting the largest net which it is possible to use in a given case; in other words, giving the patient the best possible guarantee against a return of the malady. My advice is then expressed in a few words; secure a filigree very much longer than could possibly be used, cut it in two and anchor the two segments as far as possible back between the tissue layers, then allow the broad ends to overlap for an inch or so, cutting off any redundant portion.

Thus, as my experience with ten cases (one of them more than two years old) has shown, the surgeon has at his disposal a very easy method which practically guarantees his patient against hernia in future. However, one thing is to be kept in mind, viz., that the wire filigree must be perfectly pliable and lend itself readily to every movement of the abdominal muscles; this essential quality is found only in a contrivance made up, with the exception of one connecting strand, of wires disposed *across* the field, this being the only logical call for their support anyway, since laparotomy wounds spread in the lateral and not in the longitudinal dimension.

(It will give me pleasure to submit to the firm making these filigrees for me, the address of any surgeon who may be interested in trying them.)

3894 Washington boulevard.

DIAGNOSIS OF SYPHILIS OF THE EYE.

BY JOSEPH W. SHERER, M. D., of Kansas City, Missouri.

It can scarcely be thought too broad a statement to say that there is no tissue within the orbit which syphilis may not invade, and no walk in life where syphilis does not occur. During its clinical course there are a number of pathological processes which its protean manifestations may imitate, and not a few clinical conditions for which its lesions may be mistaken. The delicacy of the organ and the preciousness of its function alike require the greatest conservation, and, correspondingly, the malignancy of this disease and the fatality of its progress alike require of the practitioner the promptest therapy.

Perhaps in no class of cases is it more requisite that a broad clinical experience be combined with a thorough pathologic, and these with an educated diagnostic instinct. The touching pathos of the appeals of those plunged into irretrievable blindness has brought to me the most painful experiences by which my sense of the humane has ever been aroused. More need not be said.

It is not my purpose to enter upon the details of syphilitic ocular statistics, but I wish to say in passing, that in frequency of occurrence and gravity of results, these cases are second only to the different ocular infections by the diplococcus of Neisser. In the statistics of blindness recently published by Johan Widmark, of Stockholm, syphilis is assigned as the causative agent in 17 per cent. of all cases. The distribution is as follows: Optic atrophy, 8. per cent.; exudative choroiditis, .5 per cent.; chorioretinitis, 5. per cent.; iritis, cyclitis and iridocyclitis, 1.5 per cent.; meningitis and cerebral syphilis, 2. per cent. These terms are considerably higher than the older and much more extensive statistics of Magnus. There are objections which may be offered to either table, but, making due allowance for error, I think the above figures none too expressive of the great seriousness of the subject.

Ordinarily, ocular syphilis is not more difficult to diagnosticate than syphilis elsewhere, but some of its rare forms and aberrant expressions may be very puzzling. Syphilitic dacrioadenitis occurs and needs to be distinguished from other adenopathies of the lachrymal gland, such as mumps, adenoma, sarcoma, lymphoma, epithelioma and osteochondroma. According to the observations of De Lapersonne, in syphilitic dacrioadenitis the gland is enlarged, indurated and painless. In one case there was accompanying orchitis, mastitis, parotitis, multiple adenitis, and following iritis and choroiditis. The infection appeared to have the predilections of mumps.

Syphilis may invade other parts of the lachrymal apparatus in the primary, secondary or tertiary stages, but most frequently the tertiary stage, and by preference the lachrymal sac, where syphilitic fungoid growths must be differentiated from sarcoma, carcinoma and tuberculosis. Sarcoma is quite uncommon here. Carcinoma in the form of epithelioma usually spreads thither from adjacent territory, and is relatively rare. The differentiation from tuberculosis is more difficult. The presence of tubercle elsewhere in the economy, the presence of a marked dyscrasia not syphilitic, or, on the other hand, pre-existing or co-existing syphilitic lesions, will be decisive.

Iysaka has just reported a case of syphilitic conjunctivitis and tarsitis in which there was diffuse swelling, no secretion and no follicles. The lids were greatly hypertrophied, indurated and not sensitive to pressure. It was a tertiary lesion, and the diagnosis was confirmed by the anamnesis.

Mucous patches and gummata occur upon the conjunctiva as well as upon other mucous surfaces, and although their appearance can hardly be said to be sufficient alone to establish their specific character, still the accompanying lymphatic induration and other coexisting signs of secondary or tertiary syphilis are evidence enough to enable one who is informed to make the correct diagnosis.

Of the ocular muscular paralyses, about 60 per cent. are due to lues. They may also be due to rheumatism, to diphtheria, to scarlatina, to diabetes, to poisons such as tobacco, alcohol, lead, ptomaines and drugs, to cerebral disease such as meningitis, tumor, aneurism, paretic dementia and bulbar palsy, or they may be due to disease of the spinal cord such as locomotor ataxia and multiple sclerosis. In a young adult the palsy will generally be found to be either syphilitic or rheumatic. The syphilitic ocular palsies are generally peripheral, unaccompanied by pain, of the third pair, from the acquired disease, and come on rather late in its course. The rheumatic palsies are somewhat different in character. Although likewise usually peripheral, they generally affect the sixth

pair, follow exposure to cold, and are accompanied by frontal or periorbital pain, or by painful sensations on moving the eyeball. When the palsy is from diphtheria, scarlatina or other toxin of that ilk, the ciliary muscle is involved, the lesion immediately follows the disease, and the history is given without reserve. If the paralysis be due to brain disease, there are generally other symptoms of brain lesion. Thus, if the cause is a brain tumor, there will probably be choked disc. Other less frequent causes are to be determined by finding the morbid factor present.

Of the numerous keratitides, about two-thirds are due to hereditary lues. As the diagnosis of the ordinary diffuse interstitial keratitis is simple, I will refer only to a few anomalous types of luetic keratitis the recognition of which may be difficult. Instead of the grayish or yellow-red infiltration and opacity spreading regularly from periphery to center, as in the more usual form of deep, diffuse, interstitial keratitis, the invasion and a varying amount of vascularization may be limited to a small area or areas near the margin of the cornea. The accompanying conjunctivitis, lacrimation, photophobia and pain give rise to a condition which is clinically almost indistinguishable from scrofulous phlyctenular conjunctivitis. The "epaulet" form of inherited luetic limited nodular keratitis of Wicherkiewitz may easily be wrongly diagnosed as scrofulous conjunctivitis. In the borderland cases accessory signs of inherited syphilis are to be sought. Some of these are Hutchinson's teeth, a sunken nasal bridge, snuffles, a coarse, flabby skin, rhagades at the angles of the mouth, defective hearing, dwarfed stature, scars about the alæ of the nose and in the pharynx, nodes on the crests of the tibiæ, enlargements of the knee-joints from chronic synovitis, and indurated lymphatic glands.

I have not space to describe in detail some other mimetic forms of luetic keratitis. The lines along which the solution of diagnostic difficulties is to be successfully reached have been sufficiently indicated.

Observation of the iris may be precluded in the group of diseases described above. The existence of iritis or iridocyclitis may be surmised from seeing in the ciliary zone a slaty hue or bluish-gray color. Another condition of the iris which requires elucidation is that in which inflammation is accompanied by the formation of nodules. There are two epochs in the course of syphilis during which this may occur. The first is early during the secondary manifestations. The second is after the lapse of quite a number of years, in the tertiary stage. These nodules must not be confounded with the nodules of sarcoma or tuberculosis. In secondary syphilis the iritis which coexists is a malignantly plastic one. There is a great tendency to the formation of posterior synechiæ which are large, coarse, inextensible and of a dark color, in contradistinction to those which form in rheumatic iritis, and which are fine, extensible and of a light color. The nodules are true condylomata, whence the term condylomatous iritis has been derived. The nodules are single or multiple, seldom exceed 2 mm. in diameter, are more likely to be near the pupillary margin, are reddish brown and become lighter in color as they grow. The tertiary nodules are accompanied by the syndrome to which the misnomer serous iritis has been applied. There is a deposition of fine dots upon the posterior surface of the cornea, a condition which was formerly miscalled descemetitis. There is cloudiness of the vitreous body, and occasional accessions of secondary glaucoma. There is but little danger of posterior synechia. The nodules are true gummata.

Tubercular nodules are usually numerous multiple, about the size of a millet seed, reddish or yellowish or yellowish gray in color, with slight inflammatory reaction, but with ciliary redness and tenderness. Sometimes there is the pathognomonic appearance of a single large gray nodule with satellite-like, smaller, translucent nodules grouped around it.

Melano-sarcoma and leuco-sarcoma occur, as a rule, in the lower half of the iris, are not transparent, are yellowish or brownish and very vascular. With a lens many fine vessels may be seen coursing over them, and there is a special tendency to repeated sharp hemorrhages. All these neoplastic formations are prone to be accompanied by secondary glaucoma. It is not within the province of this paper to discuss the ordinary symptoms of iritis and of the irritation which results from the conditions just mentioned, but only to indicate the more useful points of contrast.

Gummata of the uvea are to be differentiated from tuberculosis and the so-called spontaneous panophthalmitis. All of these conditions are very grave and the urgency very great. In order to preserve ocular integrity, intervention must be very prompt and very active. Gummata of the uvea are nearly always in the ciliary body and processes; they are precocious tertiary syphilides, and are generally preceded by iritis of the distinctly syphilitic type. The iris involvement begin at the base, and consist of a grayish-yellow prominence, spreading toward the pupil. In the adjoining sclera a reddish swelling develops, which rapidly becomes fungoid. A recognition of the luetic character of the disease is sufficient for the diagnosis.

Numerous, varied and striking fundal conditions arise in both acquired and hereditary lues. Specific neuro-retinitis is to be differentiated from choked disc and albuminuric neuro-retinitis. In choked disc the veins are congested and tortuous, while the disc is swelled, œdematous, of increased diameter, protuberant and has the appearance of spermaceti. In albuminuric neuro-retinitis the disc outlines are blurred or obliterated, and there are large or small white or yellow-white spots or patches scattered over the fundus, especially in the macular region, where they may be arranged in a ray-like manner around the fovea. In specific neuro-retinitis the disc outlines are blurred, and there are diffuse or central vitreous opacities, which cause part of the blurring of the disc. There is no vascular congestion and no choroiditis. Rarely white scales form on the vessels, and when present they are pathognomonic.

Luetic retinal arteritis, from acquired infection, consists of white lines along the artery walls, with or without opacity of the retina and with or without more or less numerous hemorrhages. With the progress of the disease the type is produced which has been compared by Schoebl to the cerebral syphilitic arteritis described by Huebner. The arteries are gradually converted into thin, gray lines or bands, and the veins become congested and turgid. Symptoms are absent or unimportant until the disease is well advanced. As the disease usually exists in eye and brain, the diagnosis cannot fail to be of great importance.

In the type of syphilitic retinitis of Jacobson, as agreed in by Oswalt, Schweigger, Classen and Hirschberg, dust-like opacities appear in the posterior vitreous, and tend to dim the disc. A grayish opacity of the retina occurs at the posterior pole, and extends by digit-like processes along the vessels toward the equator. Small, round, red, or white foci cover the retinal vessels at places like strings of berries or pearls. Symptomatically, there are night-blindness, reduced light sense and diminished visual acuity.

Perimetrically, annular scotomata are sometimes demonstrable. Syphilitic central relapsing retinitis and syphilitic hemorrhagic retinitis are both so rare that I will not here enter into details concerning them.

Syphilitic pigmentary degeneration of the retina is a pure pigmentary degeneration, and is generally due to acquired, rarely inherited, syphilis. It resembles congenital retinitis pigmentosa very closely. They can be differentiated by observing the following: The syphilitic form of the disease is monocular, central vision is reduced, the deposits are peripheral, the visual field is contracted, there is night-blindness and there is reduced light sense. True congenital retinitis pigmentosa, not of luetic origin, is monocular, central vision is normal, the deposits are peripheral and grow toward the center, the visual field is contracted symmetrically, there is night-blindness and reduced light sense.

The syphilitic chorio-retinitis of Foester, as first described by him in *Archiv. fuer Augenheilkunde*, possesses pathognomonic signs, and still is one of the most easily overlooked of conditions. This is so because the very fine dust-like deposits in the posterior vitreous, which are characteristic, may be inscrutable to examination by the ordinary method. The pronounced redness of the papilla may be no greater than that from functional cases. It is hard to see the fine deposits with the bright light, the concave mirror and the small pupil, which are the usual conditions of an examination, but with reduced light, a plane mirror and a wide pupil, they may be easily seen. From this condition alone acquired syphilis can be as positively predicated as can nephritis under certain other conditions. The opacities may be diffused regularly through the posterior part of the vitreous or they may be arranged in symmetrical rows and groups. They may be fixed, or they may oscillate if there be liquefied vitreous. There may be bright red, gray or white spots around the macula. In old cases there may be found at the periphery scraggy, irregular plaques of alternate absorption and proliferation of pigment. In some cases the center of the fundus looks bluish-gray or with intersecting scar bands suggestive of coarse matting. In some cases of long standing the appearance may be strikingly like that of true non-specific retinitis pigmentosa. By remembering the characteristics of the latter, as given above, the diseases may be separated. In the syphilitic condition, moreover, the pigment is less mossy or lace-like, and coats the vessels less. Perimetrically, however, the diseases are very similar.

Chorio-retinitis pigmentosa from acquired syphilis is to be distinguished from the same condition arising from the disturbances of puberty and of the climacteric as well as from the posterior staphyloma of progressive myopia. The fundus is marked by alternating areas of yellowish-white spots and irregular black spots, which are due to varying pigment absorption and proliferation. The stroma shows some proliferation with the formation of exudate into the lamina vitrea.

In the familiar choroiditis disseminata it is necessary to distinguish between those cases which arise from tuberculosis, rheumatism, malaria, anemia, gonorrhea, typhoid and the rare diseases typhus fever and Paget's osteitis deformans. The tubercular and syphilitic cases are about equally frequent. The tubercular cases are usually monocular, the lesions less widely distributed, with less pigmentation and with less tendency to atrophy than in the syphilitic cases. The latter are usually bilateral, with yellowish or whitish flakes about the macula, dust-like opacities in the posterior vitreous and with changes in the walls of the

vessels of the choroid and retina. These qualities distinguish the disease. All of the foregoing conditions in the fundus are due to the acquired disease. The conditions in the fundus of the inherited disease are numerous and varied. Sidler-Huegenin has just published a two hundred and fifty page monograph upon the subject. An adequate description of their picturesque displays would prolong this paper beyond its proper limit.

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ILEO-COLITIS.

BY L. L. MEANES, M. D., of Des Moines, Iowa.

Ileo-colitis is an inflammation of the mucous membrane of the lower portion of the ileum and of the large intestine. This disease comprehends what is usually called dysentery and many forms of enteritis. Of the intestinal diseases in general this probably is the most prevalent, the commonest age being under ten; consequently the discussion of this paper will be confined to the disease as seen in children.

Sex, race and social condition seem to have no influence upon the disease. It is found equally in both sexes, and all races seem to suffer alike; social conditions affect it only in that the diet and general surroundings of the patient are different. Among the causes of the disease, the predisposing ones are to be found largely in the diet of the patient. Next to diet, if not equally important, is that of ventilation or air. Many cases occur in patients who are well nursed and well cared for in every other particular but lack of abundance of fresh air. We are frequently called upon to treat cases of ileo-colitis of the gravest type in which the only cause, either exciting or predisposing, is that of insufficient ventilation. Small children are kept in bed with their parents in an ill ventilated room, and not infrequently lights—one or two—are kept burning during the entire night. The result of this poor environment is seen in the gradually increasing anemia of the child, and finally, under some slight exciting cause, an intense ileo-colitis is the result.

As a rule, ileo-colitis is secondary to some slight gastro-intestinal disturbance. These may be so slight as to be almost overlooked, or receive only domestic treatment, the case coming under the physician's care only after the dysentery has developed. It is very easy to comprehend how the putrefactive changes that have their origin in the stomach and small bowel may not be of a very severe type, but being neglected for a number of days or weeks gradually cause a more severe condition of affairs in the lower ileum and large intestine. Boas has explained this on the ground that the movement of intestinal contents at the ileo-cæcal region is slower than anywhere else in the gastro-intestinal tract. Others have explained it on the ground that putrefactive changes beginning farther up the bowel have reached their maximum intensity at this point, and consequently the tissues here must bear the burden of the increased toxicity of the contents.

The pathology of the disease does not bear constant relation to the clinical manifestations. Some cases that have run to undesirable termination show at autopsy only slight changes, which changes do not fully explain all of the severe clinical manifestations. Again, others that go on to fatal termination show the most profound change in the wall of the intestine. And even in those that go on to recovery, from the contents of the stool we know that the pathologic

change in the wall of the bowel has been most profound. The disease begins, evidently, as small localized patches of inflammation, usually confined to the acini of the glands, the number of these localized inflammatory patches depending upon the severity of the case. As the disease progresses these inflamed areas increase in size until finally they coalesce, sometimes involving the entire caliber of the bowel. When a number of these patches are coalescing the mucous membrane is shed in shreds and masses, accompanied by a considerable amount of blood and exuded serum. Often fibrine exudes and forms over the raw surface, and is then cast off, giving rise to that characteristic dysentery stool upon which we often base the diagnosis of the case. The writer of the "American Text-book of Diseases of Children" describes this stool as having a "washed meat" appearance, the shreds resembling washed muscular fiber. They are really fibrin and mucous membrane. The amount of pus passed is considerable in all cases; the amount of blood varying with the intensity of the case. Blood, however, is not a reliable sign from which to make a diagnosis, because it may become so changed before it is passed as to not be recognized.

The symptoms of the disease are not very well defined. The only two constant symptoms that are present are the characteristic stool just mentioned and the painful tenesmus. Otherwise the disease resembles acute or subacute intestinal affections of other kinds. The young patient suffering from dysentery has a constant desire to go to stool. There is a constant straining, sometimes a degree of chronic spasm, almost, there being very few intervals in which the patient is not in this convulsive condition. This, together with the profound intoxication, soon weakens the patient to a point of collapse. The diagnosis, as before stated, must be based upon these two points, viz.: the character of the stool and the intense tenesmus.

In making a prognosis of any case of ileo-colitis we must take into consideration three things: the general strength of the individual, his hereditary tendency, and environment. In this, as in all acute diseases, the individual with a strong constitution stands a better show than otherwise. Heredity plays an important part. With children of parents of tuberculous or scrofulous tendencies, or whose parents are weak or enfeebled from any cause, alcoholic or dissipated in any way, we must make an unfavorable prognosis. The environment of the patient has a great deal to do with the outcome of the case. If proper ventilation, baths, cleanliness and the right kind of food can be used, the prognosis is very favorable. But these factors are almost beyond our control. Even in families who are otherwise very intelligent, it is very hard to get the right kind of care for the children. They will be fed unreasonable things at unseasonable times, and the fear of taking cold prevents the righteous use of cold water. Children will be allowed to remain in the same clothing day in and day out, for fear that they will take cold if the clothing be changed. As the diet in this disease must be restricted, it is not uncommon to find some sympathetic member of the family smuggling little delicacies to the patient, greatly to the patient's detriment. I have seen a case of ileo-colitis terminate fatally because the sympathetic grandmother fed the hungry patient some bananas.

In regard to the treatment there is no specific for this form of diarrheal trouble. As before suggested, the main treatment should be dietetic and hygienic. The diet must be restricted to predigested foods—not the predigested foods of the drug trade, but food that you or your competent nurse has prepared

for the patient. Peptonized milk, barley water that has been sufficiently boiled, should constitute the main diet of the case. It might be well to suggest here that in making barley or rice water for these cases the boiling should be continued for at least four hours, because it is not the suspension of the starch alone that we wish to accomplish, but the thorough hydrozation. This can only be accomplished by hours of boiling. In the first twenty-four or forty-eight hours, in very acute cases, no food at all should be given. Local treatment directed towards the bowel should consist of thorough lavage. This can be accomplished by placing the patient in proper position and using a short rectal nozzle for the syringe. The flushing should be done with a normal saline solution, and it should be repeated every two hours. It is not necessary to use a rectal tube, because the flushing will be just as efficient if the patient is placed in the right position, and the saline solution allowed to flow in very slowly. It should require from five to fifteen minutes to allow a pint of water to flow into the bowel; if it is done more rapidly the spasm that its entrance sets up will defeat the process. Furthermore, the frequent passage of a rectal tube will irritate and injure the lining of the bowel, which is already in an engorged state and specially liable to injury. To overcome the tenesmus after the bowel and stomach have been thoroughly cleansed a little opiate must be used, but this drug must be used with great caution. The best way is to use morphine, making your own solution. If the child is very young, or you would imagine one one-hundredth or one one-hundred and fiftieth of a grain sufficient, this size dose can be easily made. Take your hypodermic tablet of morphine and drop it into the required amount of water, so that one teaspoonful of the solution will give you the required dose. In giving one one-hundredth grain of morphine I find it very convenient to call for a glass and spoon and count out twenty-five spoonfuls of water. In this dissolve the one-fourth grain hypodermic tablet, and direct that a teaspoonful shall be given as required. A spoonful is a very indefinite quantity, but where you have measured out the water, and then direct that the same spoon be used in giving the medicine, you are sure that you are giving the required amount of the morphine. Here you are absolutely accurate, while in paregoric and other opium preparations we are far from accurate.

Drug treatment by the stomach is of little value. Little or nothing can be done with intestinal antiseptics. The best we can do is to give a mechanical sedative in the way of large doses of bismuth subnitrate. Twenty-five grains of bismuth subnitrate can be given every other hour to a child twelve months old. This can be given in divided doses. It will diminish vomiting and thirst, obtund the sense of hunger if it is present, and have a marked sedative action on the mucous lining of the bowel.

Rest in bed is absolutely necessary; the patient with ileo-colitis should not be allowed to move. A little exertion will bring on the spasms of tenesmus and set up the characteristic stool, when we imagine that we have it under control.

Just a point regarding the use of cocaine. Where the tenesmus is due to a low colitis a grain of cocaine dissolved in a pint of hot water, and the bowel flushed with this solution will give a few minutes' rest, which rest means a turning-point for the better.

To sum up the treatment, we will say that hygienic and dietetic treatment are of major importance. The drugs can only control the symptoms; the cure must be brought about by the proper diet.

CLINICAL REPORTS.

A CASE OF SODIUM CHLORID POISONING IN A CHILD.

BY JOHN ZAHORSKY, M. D., of St. Louis, Missouri.

A great variety of antiseptics are used in the form of an enema for the purpose of destroying thread worms. Some of them are very effective, but often there is as much danger to the host as to the parasite. Strong antiseptics should not be used, and most text-books warn against their employment. Hawkins, of Pittsburg, several years ago, reported a case of poisoning from the employment of a carbolic acid solution as an enema.

Recently, I was called to see a child very sick, apparently, from an enema of common salt solution. As I can find no similar case in the literature accessible to me, and as it shows that even simple chemicals should be used with care, the report may prove of some value.

V. C., girl, aged three years, had always been a very nervous infant. Her digestion had been imperfect for several weeks, and a few days ago the mother observed a few pin worms (*oxyuris vermicularis*) on the anal margin. The father at once suggested that the child be treated with a rectal injection of salt water. This was done. A solution of common salt was made (over one tablespoonful to the quart of water) and about a quart of this injected into the rectum. This was soon expelled and the operation was repeated, another quart being injected, which was also apparently expelled.

Soon afterward the child commenced to complain of excessive thirst. She drank an enormous quantity of water, and vomiting commenced, which was followed by great prostration. The child became deathly pale, the extremities cold, the face had a pinched expression, the eyes turned upward.

I saw the child soon afterward. No other cause of the vomiting could be discovered. She had the same milk as her little sister, who was well. She had eaten nothing to which the severe vomiting could be attributed. The child had revived somewhat but constantly called for water. Several watery stools had been passed in the last two hours. She vomited every few minutes and again called for water. She drank about fourteen ounces in a little while, then vomiting began again.

Some carbonated water was ordered; also albumen water. She was given internally a mixture of spirits peppermint, spirits of chloroform and paregoric.

In spite of this, the vomiting and excessive thirst continued for five hours longer.

On the following morning, twelve hours after the enema, the child seemed perfectly well but was passing much urine and still had a thin passage occasionally.

As no other cause was demonstrable, and recovery was so prompt, the severe symptoms must be entirely attributed to poisoning by the sodium chloride.

CASE OF MULTIPLE NEURITIS FOLLOWING MUMPS.

By JOHN ZAHORSKY, M. D., of St. Louis, Missouri.

Holt "Infancy and Childhood" refers to a case of multiple neuritis following three weeks after mumps and reported by Jaffrey. Osler states that peripheral neuritis is a rare sequel of parotiditis.

Recently, I was consulted in such a case, and while I did not have the opportunity to study the case as thoroughly as the rarity of the disease might demand, the clinical facts are somewhat interesting.

R. P., age five years, boy, had always been healthy and with the exception of influenza six months before had not passed through any acute infectious disease except mumps. Two weeks before the onset of the present symptoms, all the three children of the family, our patient included, had mumps. Our patient had the disease milder than the others and apparently made a very satisfactory recovery.

The present illness began as pain in the abdomen and lower limbs. The mother noticed that he was very restless at night, and that the hands and feet would twitch. He had no fever nor cerebral symptoms, no vomiting nor diarrhea. On handling him he complained of pain in the thighs. Otherwise, he seemed well. Appetite was not impaired and digestion seemed to be perfect.

A few days later it was noticed that he limped. He dragged one foot when he walked.

On examination, no involvement of hip joint was found. The movements in the hip joint were normal and gave no pain on movement. Pressing along the course of the anterior crural nerve revealed great tenderness. The patellar reflexes were abolished and the plantar reflexes seemed lessened, but not quite abolished in both limbs. There was considerable more muscular weakness in the left lower extremity. Sensation was apparently very little affected, although he did not respond to pinching in the left leg as rapidly as the right.

The weakness of the lower extremities became worse until he could not walk. He could sit, however, and used his hands very well. Still, he often complained of a tingling or pricking sensation in his hands. Pain and pricking sensations persisted in the lower limbs for ten days, then a gradual improvement was noticed. The improvement continued, pain disappeared, and after seven weeks the child was apparently entirely well. He could walk and run without difficulty.

The diagnosis rested on the fact that the onset was slow, the pain in the limbs marked, the paralysis bilateral with symptoms in the arms, sensation slightly affected, and finally the rapid recovery. Very slight atrophy of the limbs developed, but not enough to regard as an important symptom.

As the patient had taken no medicine recently and was given nothing for the mumps, the conclusion is that this disease was responsible for the neuritis.

INFLUENZA OTITIS.

BY ALGERNON S. BARNES, JR., M. D., of St. Louis.

In the epidemics of influenza during the past three years a peculiar form of middle-ear inflammation was often met with in the course of that disease. Under my observation it began with sudden intense pain, radiating in the form of a diffuse neuralgia, with sensation of fullness. Nose and naso-pharynx were highly congested, and there was exudation of thick, tenacious mucus. The tympanum was congested and bulging, and when paracentesis was performed the discharge was sero-sanguinous. When properly treated the disease ran its course in about ten days, seldom with pus formation, the hearing gradually becoming normal.

The most peculiar of the symptoms was that, after paracentesis, the pain continued as intense as before, and it was often necessary to administer morphia and apply hot fomentations over the affected part. In a great many of the cases spontaneous perforation occurred.

I have seen cases in which there were recurrences of the pain and tenderness for months after the attack. Some of these cases resulted in a chronic otitis media, which persisted and resulted in deafness.

I contend that invasion by the grip bacillus takes place through the naso-pharynx and tube; therefore the nasal cavity and the pharynx should be carefully watched in the beginning.

After rupture of the drum membrane it is not wise either to syringe the ear or to insufflate powder until the sero-sanguinous discharge has stopped, but antiseptic gauze or cotton should be lightly packed in the outer ear for the purpose of draining the discharge. The naso-pharynx should be well lubricated with bland and soothing antiseptic oils during the attack. It is a good plan to instruct the patient to hold the mouth open when blowing the nose, so that the secretions shall not be forced into the Eustachian tube. Politzeration should never be done in these cases.

CORRESPONDENCE.

EDITOR INTERSTATE MEDICAL JOURNAL:

Answering the criticisms of your correspondent in the July number of your journal, allow me first to state that my editorial was written, not with any prejudicial opinion entertained about the subject discussed, nor with any intention to cause prejudice against the work of an author whom I honestly appreciate for his scientific attainments. The objection raised against my ignorance of other literature than that specifically mentioned cannot be taken, as this other literature does not give a single essential point or datum not covered by the paper discussed by me. The question whether Councilman in publishing his preliminary report has made positive or only suggestive assertions has not been touched by me. That he himself believes that his findings are positive, is shown by the very fact that he published his announcement. As to the confirmatory opinions of Welch and Calkins, I assure your correspondent that they have almost more weight with me than Councilman's paper itself, but from what I have learned about them they were congratulatory on studious work done, but were not given as an endorsement of the conclusions drawn from it. And I doubt very much if either one of these gentlemen would, if asked for it, endorse the latter.

Councilman has certainly found peculiar formations in the cells of variola and vaccinia lesions. He thinks that he was able to follow up their cyclic development, and that variola differs from vaccinia by an additional cycle (sexual) that is gone through within the nuclei of the infected cells. The course of this development resembles, in some respects, that of known protozoic organisms. In rabbits and calves only the sexual (endogenous) cycle appears, so that in monkey and man we would have the exogenous hosts. During the first days of the infection nothing of these parasites is to be found, just as in malaria.

Developmental cycles of parasites of this category have been described before. I recall the beautiful work of Sawtschenko and his more beautiful pictures of cancer parasites, that to eminent experts appeared to be the proof for the existence of cancer parasites. The pictures are so convincing, the single stages are so persuasively arranged, that even now it seems impossible to condemn these things to the realm of degeneration products. The more refined the methods became the more "parasites" were found. So far not one of them has been able to withstand a critic. Variola and vaccinia have been searched for them more scrupulously than any other pathologic process. There is no method that has not been utilized: nothing has been neglected.

On the other hand, we must not forget that the investigation of protozoa in tissues cannot be confined to their microscopic demonstration; I do not believe that Calkins would call Councilman's organisms protozoa, if his attention had been called to them as such. He would not dare to diagnose small, ring-like bodies or segmentation-forms of so-called chromatic substance in stained specimens protozoa, if he had seen similar things in other pathologic tissues. I do not know of any stage of coccideal (protozoic) development that could not be found at times as cell-inclusion in pathologic or normal tissues; they can be found at all stages in hundreds in the follicular lining of every maturing ovum

of man or mammal. In Sawtschenko's work the different stages were arranged in a cycle by grouping together the several forms found in one tissue. It is different in Councilman's investigations, where the cyclic changes follow the gradual development of the tissue lesions. Apparently this is a difference. We know, however, that with the course of the pustule-formation alterations of the epithelium successively occur; these alterations go along with the formation of cell-inclusions, which, too, change their form and appearance as the lesion progresses. A beautiful series of these pictures may be seen in Borrel's paper on this subject (*Annales de l'Inst. Pasteur*, 1903, February). While in a so-called cancer nest the youngest and smallest "parasites" (rings) lie in the youngest cells, we follow them up there in the older cells gradually to larger forms, then see them break up into small groups of granules and even ameba-like objects, to finally disappear when the cells lie in the center of the nest and become disintegrated or necrotic. Owing to the growth of carcinoma, all these processes can be seen closely together in the same specimen. In variola and similar skin lesions (ovinia, foot and mouth disease), the inclusions follow the tissue changes; they finally become invisible. That in man and the monkey an intranuclear generation of the parasite is found, not in the calf or in the rabbit, which only develop the first cycle from variola as vaccinia, may be explained by the close relation of the first two species to each other, the similarity of the nature of their epithelium and its reactive properties against the variola virus.

The nature of these cell-inclusions is not definitely known yet, but it is certain that they have no parasitic qualities. By all means, it must be remembered that our present knowledge about the finer changes in the protoplasm and nucleus of pathologic cells is limited mostly to what we see in the specimens prepared after the ordinary methods. In almost no pathologic condition have the cell changes been studied with that refinement and exactness of method that is today employed for the search of parasites in diseases the origin of which has not yet been discovered. Comparative investigation would show, and has shown, identical or similar inclusions in other conditions the cause of which is known.

Other considerations than the foregoing have been touched in my editorial. I have already taken too much of your space. Let me say, in conclusion, that I am desirous to see Councilman's claims confirmed, but at the same time I cannot convince myself that he has brought out, so far, any evidence that would substantiate the claim that the variola organism has been discovered, except the constant appearance of certain bodies in the cells of the lesions. That this is not alone my own opinion but shared by other men who, perhaps, can better afford to "assume an authority," is evident from several reports published in American and in German medical journals.

CARL FISCH, M. D.

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EDITORIAL COMMENT.

NEW DEVELOPMENTS IN OUR KNOWLEDGE ON THE IMMUNITY REACTIONS.

The important papers published during the last few months on this subject give, as the first impression, the feeling that a beautiful dream must be buried, because a much wider outlook has been opened. It is possible that some of the positions taken by Ehrlich in regard to immunity will have to fall as such, but there is no doubt, on the other hand, that as heuristic theories they will further continue to exert their entrancing influence. As is well known, the basis of Ehrlich's work was the establishment of the chemical nature of the immunity reactions, as we may shortly call all of those phenomena that of late have taken such a high place in biologic work. Ehrlich has fought many a hard fight for this truth, an immortal monument of which his theory of the constitution of the diphtheria toxin will always remain. Attempting to obtain a control of the observations made, he strictly adhered to methods that offered the same experimental conditions in all cases. In matters so obscure and mysterious erratic experimentation would have led to error and failure. The immense addition to our knowledge that was thus acquired is generally known. It will never be forgotten. Bordet himself has lately abandoned his comparison of the immunity reactions to the process of staining (physical ab- or adsorption), a comparison that was *a priori* futile because no definite criterion as to the difference in character of physical or chemical processes exists.

Physical chemistry could not fail to take its hand in the denouement of these intricate relations, and was prompted to do it by the classic investigations of Eisenberg and Volk on the binding relations of the agglutinins. If bacteria

were brought together with so much agglutinin that an excess of the latter existed, they found that afterwards the bacteria were still able to combine with agglutinin, if more of it was added to the mixture. The quantity of the combined agglutinin increases steadily with that of the added agglutinin, so that a combination fully saturated is impossible. Similar observations were made by Joos on the same substances, and Bordet had long since described analogous phenomena in regard to complements and anti-complements. In another direction Arrhenius and Madsen have investigated a diphtheria toxin, and have found that the curve of its combination with antitoxin exactly corresponds to the curve of neutralization between ammonia and boric acid. The curves that Pirquet has constructed from the neutralization experiments made by Madsen with tetanolyisin show the same character—they are asymptotic. These processes were thus found to follow the law of Guldberg-Waage, which says that in chemical reactions between two or more substances, after the chemical equilibrium has been established, the product of the combined substances stands in a constant relation to the product of the unchanged substances. All of these processes are reversible, and an absolute neutralization is, therefore, not to be thought of. For hemolysins, Morgenroth has first shown this character of the reaction.

These and other investigations, among which those of Landsteiner and Jagie must not be forgotten, have with certainty established that the reactions between receptor and haptophorous group are not of the nature of chemical processes with constant proportions, but of molecular or dissociable combinations. In solutions of this kind the compound and both of the reacting substances are present in constant proportions, the reaction is reversible by the addition or subtraction of one of the substances. A neutralization of the two bodies acting on each other in any form of immunity reaction does not exist, and no matter how much antitoxin we add, there must always remain a certain portion of free toxin.

All of these conclusions could not have been reached, if the chemical nature of the processes had not been incontrovertibly established by Ehrlich's work. It is a mistake to assert that Ehrlich had insisted on the law of constant proportions as obtaining under all conditions; that this impression could get hold was due to the necessity of working under constant and homologous conditions in a field that was new and obscure; only in this way could the foundation be built on which to erect a structure of enormous dimensions. Ehrlich's views on the law of multipla will continue to be acknowledged as the expression of the appearance of the immunity reactions under well-defined and stable conditions. Above all, it is the absolute specificity of the phenomena under discussion that Gruber forgets in his criticism, and that never will yield unless to an explanation identical or similar to that given by Ehrlich.

The truth that the products of immunity reactions are dissociable will influence greatly the course of further research. It will at the same time influence the practical application of these products. Since no complete neutralization of antitoxin and toxin is possible, we will never be able to do away with all of the toxin in infectious diseases. The point is to reduce this unavoidably remaining portion of toxin to its smallest possible amount by the administration of a great quantity of antitoxin. Only thus can the amount of free toxin be kept below the fatal quantity. This is well illustrated by the surprising hypersusceptibility of animals to small doses of a toxin against which they are highly immunized.

Horses that carry millions and billions of units of tetanus-antitoxin in their blood, now and then succumb to the injection of a fraction of the first dose that they received in the course of their immunization. This can only be explained by the fact that in the successive inoculation of toxin some toxin remained free every time; not sufficient to cause symptoms, but, nevertheless, combining with the susceptible cells. In the course of immunization this process becomes accumulative, so that finally only a minute fraction of a fatal dose will be necessary to make full the fatal quantity and to kill the animal. This view, of course, involves the abandonment of the theory that only the susceptible cells produce antitoxin. The antitoxin formation will be considered as a secretion of the body tissues, not accessible to the toxin.

THE DANGER OF TRYING TO GAIN THE INTERVAL, FOR AN OPERATION IN ACUTE APPENDICITIS.

"Doctor, why not rather *bare* the ills I now have, than wait for others that thou know not of" (adapted from the soliloquy of Hamlet), might aptly express the feelings of the victim of acute appendicitis when the subject of operation comes up. At least this seemed to be the consensus of opinion at the recent meeting of the surgical section of the American Medical Association in New Orleans, when Dr. Gibbons proposed the idea.

The consensus of opinion among the best American surgeons is to operate on every acute case seen within the first forty-eight hours; a proposition which formerly seemed to the writer to be lacking in conservatism, and entirely too general for special instances. However, growing experience cannot fail to convince any one that there are good reasons for this way of thinking; and, until we shall possess some definite means of determining the exact anatomical status in each case, we can never know what to expect in the given case when we pursue the "waiting" policy. Knowing that the mortality is very low in early operation, what possible line of reasoning can influence the "internist" to wait? I know full well that we find the anatomical condition in many instances to be such that the patient could have waited for the interim without danger, and I know, further, that all the local damage done by a "perforation" may become walled off occasionally; but, on the other hand, it has been my misfortune to cut in, *without severe symptoms to indicate the true condition*, and find several portions of the small intestines gangrenous. Now, I should like the "waiter" to tell me what becomes of these cases when treated by his method. It must be admitted that efficient surgical treatment has saved some such. Don't let the fear of hernia stand in the way; it can be easily handled and is better than death, at all events. Then there is but one argument left for the reluctant members of the profession, viz.: that the mortality is lower when the interim operation is done. Very true the mortality is lower for the interval cases than it is among those hapless individuals who are held over till the third or fifth day and then, septic and exhausted, are subjected to a trying surgical ordeal. It is hardly fair to take all the acute cases as at present operated upon, and compare their fate with those who have withstood the attack; rather compare those to whom a fair chance has been given during the first twenty-four or even the first forty-eight hours with the interim cases, and the so-called "conservative" thinker will be astonished at the result. But even this is misleading. To get at the true value of the two ideas—that is, to arrive at practical working conclusions—it is necessary to compare the mortality among acute operated cases with that which obtains among all those *who attempt to gain the favorable interim*.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Ehrlich's Diazo Reaction as a Means of Differential Diagnosis.—PELZL (*Wiener Klinische Wochenschrift*, No. 31, 1903), after an extended series of observations with reference to the diazo reaction, concludes that it is positive in (1) abdominal typhoid from the middle of the first to the end of the third week; (2) in measles before the eruption and during the beginning stages of the exanthema; (3) in scarlet fever-diphtheria; (4) in advanced cases of pulmonary phthisis and tuberculosis serosarum; (5) in septicemia.

The diazo reaction is also positive in those diseases in which streptococci gain entrance into the blood, and their sudden advent is indicated by a high septic fever. In these cases the reaction should be the indicator for the prompt and early employment of therapeutic measures, such as the anti-streptococcal serum, collargol injections, etc.

Laparotomy in Tuberculous Peritonitis.—ZESOS (*Centralblatt fuer die Grenzgebiete der Medizin und Chirurgie*, No. 13), presents a complete review of the literature on this subject, citing some seventy references. The history of the procedure is interesting in that its efficacy was discovered accidentally. The first cure of tubercular peritonitis through laparotomy was effected by Spencer-Wells in 1872, who made an exploratory incision in a case of suspected cyst. A most pronounced case of tubercular peritonitis was revealed through the incision. The wound was closed, the patient recovered completely, married, and in 1884 was still in good health.

Koenig was one of the most ardent supporters of the operation, and in 1890 was able to report 131 cases treated in this manner. His results were very satisfactory in all but the dry cases. Following this report the operation became very popular.

Many theories were presented as to the manner in which a cure was effected through this simple procedure. Lauenstein attributed it to the action of the sunlight upon the tubercle bacilli, and the extraction of the necessary moisture for their further development through the removal of the exudate. Von Moos-etig-Morhof and Nolen considered the entrance of the air into the abdominal cavity as the important factor, and attempted to prove this by blowing air into the cavity. The one reports three cases, the other one.

Warneck is of the opinion that the operative procedure results in the production of an exudate which destroys the bacilli. Bumm thinks that following the operation there is an increased migration of leucocytes into the abdominal cavity, and that these destroy the bacilli. Some authorities believe that the adhesions thrown out after the operation in a manner enclose the bacteria. It is also maintained that the favorable results of the operation are due to the changes in the circulation.

Some are so skeptical as to assert that many of the cases reported cured through laparotomy would have healed spontaneously and consider the results greatly exaggerated. Borchgrevnik reports fourteen spontaneous cures.

The author discusses at length the question of diagnosis.

Ileus and fistula are two serious complications of tubercular peritonitis that are to be feared. He reports here two cases in full in which both a clinical and

an anatomical cure were demonstrated. The one lived nine years after the operation, the other five and a half.

Esophagoskopie and Its Diagnostic Value.—STORCK (*St. Petersburger Medicinische Wochenschrift*, No. 26, 1903) considers the large majority of individuals favorable subjects for the use of the esophagoscope. The best instrument for general use is the strong, straight tube.

The esophagoscope gives by far the best results in the recognition and localization of foreign bodies.

The early diagnosis of carcinoma of the esophagus is only possible with the aid of this instrument, while anatomical changes such as ulcers, inflammation, scars, etc., are very easily and with the greatest degree of certainty recognized in this manner. The differential diagnosis between functional and anatomical stenosis is in some cases possible only through the use of the tube. In fact, the author considers the esophagoscope second only to the sound in the diagnosis of diseases of the esophagus. He recommends, however, that it be used by specialists only, since a wide experience is necessary to enable one to recognize the existing lesions.

A Contribution to the Etiology of the Simultaneous Development of Influenza and Typhoid Fever.—SLOTKIND (*Centralblatt fuer Innere Medizin*, No. 33, 1903) reports a case of mixed infection in a woman residing in a house where there were both typhoid fever and influenza. Based upon the symptoms, one might have made a diagnosis of a typhoid form of influenza complicated with a lobular pneumonia, or a typhoid fever with early pulmonary complications, or a mixed infection of typhoid and influenza. The early catarrhal symptoms, such as coughing, sneezing, angina, laryngitis, lobular pneumonia, the profuse perspiration which existed throughout the illness, the irregular temperature curve with variations due to no apparent cause—all pointed to the existence of influenza. On the other hand, the enlargement of the spleen, the roseola spots, the diarrhea, sensitiveness and succussion in the ileo-cecal region, the dicrotic pulse, the typhoid habitus, and a typical relapse, were indicative of an existing typhoid infection as well. The etiology at once spoke for a mixed infection, since there existed in the same house two influenza and two typhoid cases. The examination of the sputum and the blood verified the diagnosis which was based upon clinical symptoms. In the sputum were found only the Pfeiffer influenza bacilli. The Widal examination was positive in dilutions of 1 to 10 and 1 to 50.

The author cites a large number of cases of mixed infections of various sorts, such as measles, scarlet fever and vaccination; recurrent typhus and malaria; recurrent typhus and croupous pneumonia; abdominal typhoid and malaria, etc.

Pseudo-Tubercle Bacilli in a Case of Advanced Bronchiectasis.—MILCHNER (*Berliner Klinische Wochenschrift*, No. 29, 1903.)—The patient had had several pulmonary hemorrhages; there was a marked area of dullness over the left lower lobe of the lungs, over which could be heard moist rales and bronchial breathing; in the sputum there were found repeatedly bacilli resembling in every way tubercle bacilli. The diagnosis of tuberculosis was made. The patient died of hemorrhage ultimately. The autopsy revealed no evidence of tuberculosis, but a marked bronchiectasis. Animal experiments demonstrated the bacilli to be pseudo-tubercle bacilli. The microscopical examination of sections permitted of no conclusions as to the distribution of the bacilli in the tissues. It was not possible to stain the bacilli because the tissues had been placed in formalin and alcohol.

Gall-Stone Colic Without Gall-Stones.—KRUKENBERG (*Berliner Klinische Wochenschrift*, July 20, 1903) reports two cases in which typical gall-stone colics occurred periodically. Relief was only had through the administration of morphine. In both cases a diagnosis of gall-stones was made, and operation performed. In each the gall-bladder and ducts were found to contain no stones. The gall-bladder was opened and drained in both cases, and searching examinations were made. Recovery was complete, and there was no recurrence of the attacks.

If a suggestive influence of the operations can be excluded, the writer would attribute these attacks to the twisting of the gall-bladder and the temporary occlusion, in this way, of the duct. In both of these cases the attachments of the gall-bladder to the liver were so meager that one might speak of wandering gall-bladders.

The Value of Ehrlich's Dimethylamidobenzaldehyde Reaction as a Quantitative Test for Indol in the Feces, Etc.—BAUMSTARK (*Archiv fuer Verdauungs-Krankheiten*, part 3, vol. ix) considers dimethylamidobenzaldehyde a very satisfactory reagent for the quantitative determination of indol in the feces. The test is easily carried out, does not take a great while and is adapted to clinical uses. This test fills a long-felt want, since it enables one to determine the quantity in the urine and feces, of the chief end-product of proteid decomposition.

In order to make an exact determination of the extent of albuminous decomposition in the intestines, the indican and ethereal sulphates in the urine, and the indol in the feces must be measured.

In obstipation, achylia, hyperchlorhydria, pernicious anemia and chlorosis there is more or less increase of indol in the feces; while in diarrheas, there is a marked decrease, etc.

The author predicts for the indol test great scientific significance. Further investigation must be made before anything can be said of its practical importance.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

A Case of Diabetes Insipidus Cured by a Surgical Operation.—HERESCO (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 25).—It may be well in beginning to say that this case was reported only one month after the operation had been performed, and to add that the report emanates from Bucarest, the home of Jonnesco, the man who once claimed to cure epilepsy, glaucoma and exophthalmic goitre by excision of the cervical sympathetics. The patient in question suffered from great pain in the left side, having a displaced kidney on that side; it was for the relief of these last named conditions that the operation was undertaken, and not in the hope of helping the diabetes. What was then the surgeon's surprise, the day after the operation, to see his patient void only 1½ liters urine, when his accustomed daily quantity had previously been 12 to 14 liters. The specific gravity also adjusted itself properly, and in short the patient's condition is now all that could be desired. Our author does not know whether the cure is the result of the anchorage of the kidney or the handling of the renal plexus of nerves, as he calls it, or whether it is due to the vascular change which results from a partial stripping of the capsule.

On Lotheissen's Radical Operation for the Cure of Femoral Hernia.—GILLI (*Centralblatt fuer Chirurgie*, August 8, 1903).—The original technique of this operation was, as the author reminds us, to cut down through the external inguinal ring, and then after the sack had been disposed of, to retract the abdominal muscles, etc., upward, the Poupart ligament downward, and then after baring Cooper's pubic ligament to sew the internal oblique and transversalis to it. Gilli adds a step to this operation in that he divides Poupart's ligament where the hernia is large, incarcerated or strangulated. Thus the procedure is rendered shorter, safer and cleaner, while no harm is done, since the ligament can be sewn together again.

Prolapse of the Small Intestine and Sigmoid Flexure Out the Anus.—MOSZKOWICZ (*Archiv fuer Klinische Chirurgie*, Bd. lxi, Hft. 4).—It is claimed that there is but one case in the literature like this one. The patient, a woman, sixty-eight years old, had suffered for years from a rectal prolapse and one morning, after a night of colicky pains, she was discovered on the closet, trying to push back into the rectum a number of coil of intestine which were protruding. She was quickly taken to the hospital and large as well as small intestine found to be protruding. It seems that in trying to reduce her old prolapse, in the usual manner, she had torn the wall of the rectum anteriorly, where it was completely covered by peritoneum, and the viscera referred to had slipped out. Though she was in collapse, a laparotomy was undertaken, and she promptly died upon the table. The unusual lesion is accounted for by the fact that all the hollow viscera had an unusually long mesentery, while almost the whole of the rectum was covered by peritoneum to within a very short distance of the anus.

The Anterior Gastro-Enterostomy in the Form of the Letter "Y."—MONPROFIT (*Archives Provinciales de Chirurgie*, August, 1903).—Speaking of gastro-enterostomy in general, the author admits that most authorities agree that the posterior wall of the stomach is to be chosen in routine practice, for the very good reason that better drainage is thus to be secured. However, it is in some cases not only difficult, but even impossible to get at the posterior wall, and in many of these perfect results have been attained by making the new opening in the front wall. It may be news to many that the procedure which goes by the name of the "Y" operation, and is known as Roux's operation, was first proposed, but never used, by Woelfler in 1883. In 1891 Maydl, evidently in ignorance of the writings of Woelfler, promulgated the same idea, but did not try it, and it was not until 1892 that it was performed for the first time, and that by Roux. Monprofit, who has done the operation four times, recites two of his cases here (the others have been published elsewhere) and claims four successes. By way of adding something to the technique, our author suggests the advisability of making a very deep incision into the mesentery, often cutting the gut in two in order that there may be no constriction of the omentum or of the colon at the point where the distal segment is drawn over them to be implanted into the anterior wall of the stomach. These four cases derived immediate benefit from the operation, though all were malignant in character.

Typical Respiratory Disturbances in Basedow's Disease—A Contribution to Our Knowledge of Asthma and Death Produced by Goitre.—HOFBAUER (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Bd. xi, Hft. 4).—The author has examined a number of these patients, and found the characteristic curves produced by well-known mechanical moments, but also some others which have hitherto remained unknown. In general, it can be said that the respiratory curve is flattened, that the inspiratory and the expiratory curves are lengthened, and that there are irregularities in both limbs of the curves, which otherwise

were unknown. These cannot be explained as secondary phenomena, so must be accounted for by irregularities in the thyroid secretion. It is to these cases that the author ascribes the well-known cases of thyroid asthma and goitre-death.

The Animal Suture—Its Value in Aseptic Surgery.—MARCY (*Denver Medical Times*, August, 1903).—Here is an article replete with interest and information for every student of surgical history, one fraught with suggestions of a highly practical value as well. As an example of what we may still use with profit from the older methods, Marcy states that he knows no better method of preparing catgut at the present day than Lister's original formula, using chromic acid, carbolic acid and oil. (See original for details.) Physick was the first to use any sort of an animal ligature; these were strips of chamois skin, cut thin and rolled round upon a marble slab. These became extensively used in England and America. Then came parchment, buckskin, kid, tendons of the deer and a great number of other animal fibrous structures. An excellent description is furnished of the way in which commercial catgut is prepared; something which is surely unknown to the most of us. The fact that loathsome putrefactive changes are incidental to the preparation of the raw material make it highly desirable that some other absorbable suture and ligature material supplant catgut. In modern aseptic practice the tendons of every animal, from the whale to the rat, have been used, and many of them have been found admirably suited to the purpose, the writer now preferring kangaroo tendon to all the rest.

The Indications for Surgical Treatment in the Injuries and Diseases of the Stomach; also the Prognosis and Success of Such Treatment.—BURKHARDT (*Wuerzburger Abhandlungen aus dem Gesamtgebiet der Practischen Medizin*, Bd. iii, Hft. 10).—While this article contains nothing really new, still it possesses a value as representing what has been learned from the treatment of about one hundred stomach cases in the surgical clinic at Wuerzburg. An article of its length (forty pages) can hardly serve as a guide for the operating surgeon or stomach specialist, since the details of so vast a subject cannot all be given in a work of this length. Still, the article is all the more suited to certain needs especially on account of its conciseness; especially can this be said of the general practitioner who has no time to read a long special work on each case before deciding what to do with it. Again, the wants of the student are admirably subserved by articles of just this character. The indications for the treatment of injuries are particularly well given. It is not advised to operate upon every case without further ado; the amount of stomach contents (probable) must be taken into account; the influence of shock; whether or not it is an open wound, or a possible subcutaneous rupture; and last, but not least, will the patient's condition still admit of any operative procedure. One is, however, never to wait after a diagnosis of stomach perforation, if the condition warrants any interference. On the surgery of benign disease the author is in accord with the modern view, that the gastro-enterostomy does more good in ulcer and its complications than any other procedure; while in the whole matter of cancer he lays stress chiefly upon the very early performance of explorative laparotomy, with a view to diagnosis and the performance of a radical operation while there is still time to do some good.

Traumatic Hernia.—GUERMONPREZ (*Gazette des Hopitaux*, No. 83, 1903).—This author deals with the subject in a most logical manner, and shows how a differential diagnosis can be made where the case is a recent one. In illustrating the matter he considers a typical case which has presented itself to him, and by going into the various points involved, shows just how the perplexing legal questions relating to the traumatic or non-traumatic origin of the hernia can be settled. It is safe to concede that a para-inguinal hernia can be traumatic;

within the first week the surgeon can detect evidences of injury, such as abrasion and hemorrhage, which will guide him. When the patient lies down, the hernia disappears completely. The ring is entirely different from that in the other form; its layers are not well defined, the muscle boundaries are thickened and softened, and its direction is never oblique. It may disappear spontaneously, and, in any event, as the healing process goes on there will be observed an adhesion of the skin to the aponeurosis, as well as the appearance of the fibrous nodules which characterize the healing of a rupture of the subcutaneous fat over the abdomen.

Resection and Suture of the Trachea in Stenosis Caused by Diaphragm.—KANDER (*Beitraege zur Klinische Chirurgie*, Bd. xxxviii, Hft. 1).—The usual cause of such a stenosis is the wearing of a tracheotomy tube, made necessary by diphtheria. For this condition, when it really becomes pronounced enough to make symptoms, the ideal treatment is resection, an operation which has been successfully performed in a number of cases. On the dog it was found that the retraction of the new scar caused too great a narrowing of the tube after a circular resection had been done; hence it was found better to make the suture line of longer oval form, so that retraction could not cause so much harm. However, it may be said for the human, with a comparatively wide tube, that this has no practical bearing. Koenig was the first to report a success in this line, though others have accomplished at one sitting what the Berlin surgeon required five operations to bring about. In our author's case there had been a very narrow stenosis from the cause mentioned above, so he resected all the tracheal tissue between the larynx and the fourth cartilage, uniting the ends by catgut sutures through mucosa and silver wire through the other tissues of the tube. The result was all that could have been desired, and in a few weeks the wounds were entirely healed, and the boy was in all respects like other children. Laryngoscopic examination revealed a normal mucous membrane over the field of the operation. Two things are of vital importance, viz.: that a preliminary tracheotomy be made (for the operation), and that especial attention be paid the lungs during the after-treatment.

The Pathologico-Anatomical Ground-Work of Appendicitis.—LANZ (*Beitraege zur Klinischen Chirurgie*, Band xxxviii, Heft. 3).—So much depends, in the proper appreciation of this lengthy article, upon the presence of the illustrations, that a lengthy review of it is not attempted here; suffice it to say that it is the most pretentious thing of the kind that has appeared in the German language of recent times. A large portion of the article is devoted to combating Ribbert's theory of progressive atrophy of the organ, especially in age. As far as treatment is concerned, the author takes the very logical stand that the only way in which to cure appendicitis is to operate on the cases. No intelligent internist stops to fool with opium when his patient has the toothache: now why should he do less than grasp at instrumental aid when it is so grave a matter as appendicitis? Especially must it be urged that every recurring attack brings with it more actual danger than the operation in interval possibly can. Lanz's studies cause him to express the common belief of scientific men of the present day that there is no such thing as an acute appendicitis, in the pathological sense; the first attack is acute, but the anatomical conditions which bring it about have been shaping themselves for a long time in every case.

Thyroidectomy and Sympathectomy for Exophthalmic Goitre.—CURTIS (*Annals of Surgery*, August, 1903).—Dr. Curtis bases his conclusions relative to the value of these two operations partly upon his own operative results and partly upon the work of other surgeons. He has done eleven thyroidectomies with three deaths—all due to acute thyroidism—though it is significant in this con-

nection that a general anesthetic was used in all; by the way, the author is going to try cocaine in future. Nerve resection has been done seven times by the author with three deaths, two due to "thyroidism" and one to the anesthetic (general). Of the others which come in this class, three are cured and one improved. One of the chief symptoms of "thyroidism" is, according to Curtis, a gradual acceleration of the pulse rate to 200 and more, something which Kocher and others have said will occur if a general anesthetic be used in these cases. In fact, a perusal of this excellent article brings one to the belief that Curtis himself considers the general anesthetic to have some reasonable connection with this rather indefinite "thyroidism." The author's conclusion is that the disease can be cured by both operations, a perfect result following partial enucleation in about 60 per cent. of the cases. It is significant to note that Kocher's only bad results were from the use of general anesthetics; indeed, Curtis' quotations from the Swiss surgeon leave us free to conclude that the latter's use of a local anesthetic must have had a great deal to do with the fact that he lost but four out of fifty-nine cases, in which the enucleation was done.

An Improved Process of Attacking Subdiaphragmatic Abscesses of the Liver.—MENDES (*Revue de Chirurgie*, No. 6, 1903).—The author handles the subject in a masterly manner, detailing a way of dealing with the lesion which is ingenious to say the least. He opens his article with general considerations on abscess of the liver, maintaining that it is not enough to make a simple aspiration and drain, since the necrotic particles which must be left behind are almost sure to bring about a recurrence of suppuration. The rational procedure is and must remain, large opening of the focus and packing with gauze and drainage with tubes. The specific problem remains then, how shall we approach a cavity located high up in the liver? We have both the abdominal and the transpleural routes, but prefer where possible to neglect the latter, since it is as desirable to avoid contaminating one serous membrane, let alone the infection of two. Again, it is a tedious process to obliterate the pleural layers by suture, and, further, the fixation itself may later give rise to unpleasant symptoms. The author's simple and effective procedure is the following: he resects the eighth and ninth ribs in the mammary line, then dissects up the parietal pleura as well as the cul-de-sac formed by its reflection onto the diaphragm, and after a small portion of this muscle is exposed, incises it and comes directly onto the liver which is adherent to it if the region of the abscess has been found. Of course, the work on the pleura is done by blunt dissection, the effort being not to tear it.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Value of Vegetable Proteids in Diabetes.—SCHUMAF-LECLERCQ (*Wiener Med. Wochenschr.*, 1903, No. 18-21).—A number of striking experiments have pretty thoroughly demolished the old theory that diabetes consists in an inability of the body completely to use up the sugar ingested. The opposing theory of Kolisch, that in diabetes a toxic irritation causes a splitting off of sugar molecules from the tissues themselves, is steadily gaining ground. Of all the foods, animal albumen most strongly stimulates tissue metabolism, and, therefore, according to the theory, would most powerfully aid the unknown diabetic toxin in splitting off sugar from the cellular protoplasm. Kolisch accordingly advised substituting vegetable for animal proteids in the dietary of diabetics.

The writer has tested this theory in a series of carefully observed cases of diabetes at Carlsbad. The patients were all given a uniform fundamental diet consisting of 350 c.c. black coffee, 250 c.c. white wine twice daily, 100 g. fat, ten yolks of eggs, two whole eggs, 500 g. green vegetables and 350 c.c. clear beef broth. In addition, during alternating periods of five days each they were given 400 g. of meat or a corresponding amount of vegetable albumen (80 g. Roborat). In the great bulk of observations the excretion of sugar, as compared with that of nitrogen, was very much greater when the animal albumen was given than when vegetable albumen was taken. This, and the fact that the latter is much less irritating to the sensitive diabetic kidneys than the former, leads the writer strongly to recommend the use of vegetable rather than proteid diet in diabetes.

Ice-Suppositories in Dysentery.—KAYENSKY (*Rev. de Therap.*, 1903, No. 5; *Centralbl. fuer die ges. Therap.*, 1903, No. 8).—For the relief of tenesmus pieces of ice as thick as the patient's little finger and two-thirds as long are slipped into the rectum. As soon as one has been melted, another is inserted until five have been used. At first the patient is apt to complain of some discomfort, but very soon the tenesmus ceases entirely. When it reappears, the treatment is to be repeated. In many cases the general condition is also favorably influenced. Within the first twenty-four hours the number of stools falls from 50-60 to 15-10, and recovery soon takes place.

The Treatment of Post-Operative Meteorism by Means of Physostigmine.—LUDWIG MOSKOWICZ (*Wiener Klin. Wochenschr.*, 1903, No. 22; *Centralbl. f. d. ges. Therap.*, 1903, No. 7).—The suggestion of v. Noorden to use physostigmine in cases of meteorism has not as yet been extensively followed on account of the poisonous qualities of the alkaloid. The writer has found that with proper dosage this fear is groundless, and that especially in post-operative intestinal paralysis, physostigmine may directly be the means of saving life. The first case in which the drug was used was after a colostomy for the relief of malignant rectal obstruction. For the first week a plentiful stool was obtained through the artificial anus, either spontaneously or by irrigations. During the second week, however, no feces were passed in spite of high irrigations; the abdomen became more and more tympanitic, the patient refused all food and rapidly passed into a condition of collapse. It seemed that the long-continued rectal stenosis had led to an intestinal paralysis. The patient's condition appearing hopeless it was thought justifiable to make a trial of physostigmine as suggested by v. Noorden. On account of the patient's nausea, it had to be given subcutaneously, and as good results could be hoped for only from a large dose, the maximum quantity permitted by the German pharmacopea, 1 mg., was administered hypodermically. Noorden had never given more than $\frac{3}{4}$ mg. by the mouth.

On the 6th of August, then, one gram of a one-tenth per cent. watery solution of physostigmine salicylate was injected subcutaneously. No systemic disturbance was noted. The next day the abdomen was much softer, and great quantities of mushy stool were passed by the artificial anus. The remarkable feature was, that from that time onward there was a nearly continuous evacuation of stool for nearly three days. The patient rapidly gained in strength and recovered his appetite. On August 13th, however, he suddenly went into collapse, and died on the 15th. The case had shown, however, that in a greatly weakened individual one mg. physostigmine salicylate hypodermically was not only well borne, but that thereby a striking improvement could be produced. This conclusion was still further confirmed by the two following cases.

The second case resembled the first in that the patient was an old man, greatly weakened by an appendicitis which had produced an excessive meteorism. The hypodermic administration led to the passage of stool and flatus, and unquestionably greatly contributed to his ultimate recovery.

The third case was still more striking. The third day after the resection of an appendix for recurrent appendicitis a condition of great meteorism set in. Repeated enemas were without result as regards either stool or flatus. The patient's condition grew steadily worse; a marked cyanosis indicated a hindrance to respiration on account of a pushed-up diaphragm. Enemata of senna infusion were without avail. As a last resort the writer administered physostigmine hypodermically, but on account of the condition of collapse only half a milligram. Two hours later large amounts of flatus were passed, and the patient at once felt relieved. Next morning the abdomen was softer and the cyanosis had disappeared. There had, however, been no stool. Even after another injection of half a milligram of physostigmine salicylate no stool appeared. It was not until a dose of rheum had been given that a fecal evacuation was obtained. The patient's recovery thereupon was without incident.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

On the Cultivation of Trypanosoma Lewisii.—(“Contributions to Medical Research,” pp. 549. Dedicated to Victor Clarence Vaughan. Ann Arbor, Michigan. 1903.)

MacNeal and Novy have reached the goal that has vanished out of reach to many earnest attempts. Cultivation of protozoic organisms, in the bacteriological meaning, so far was impossible, and we were satisfied to be able to grow amebæ in symbiosis with bacteria. The authors have succeeded in producing pure cultures of the rat-trypanosoma on a medium (agar) containing fresh blood. Such cultures they have propagated through over twenty generations. The growth of the flagellates was luxuriant, their virulence remaining altogether unaltered. Some cultures remained living and infective for nearly a year. Not only general biologic problems so far inaccessible on account of the impossibility of cultivating unicellular protozoa, will receive an immense assistance by this discovery, but practically, too, it will have great importance. The near relationship of the different trypanosoma species makes it possible that the parasites of the murderous diseases caused by them can be studied in the same way, and that means may be found (inoculation, immunization) to counteract them. The paper is one of the most valuable portions of the many important articles of the volume.

About the Presence of the Virus of Rabies at the Site of the Bite in a Child Dead from Hydrophobia.—D. PACE (*Annales de l'Inst. Pasteur*, 1903, No. 4).—The number of cases of hydrophobia reported in which premonitory symptoms had appeared in the shape of pains at the site of the wound are numerous. How to account for this was not clear, and the explanation that it was due to auto-suggestion was generally accepted. Pace examined the wound or scar in a case of hydrophobia, and the medulla, salivary glands and portions of the skin, by subdurally inoculating rabbits. While the skin proved entirely avirulent in all places examined, the animals inoculated with emulsions from the scar died of

typical rabies. This result is very surprising, and ought to be confirmed by control investigations wherever the opportunity offers itself.

Bacteriologic Examination of the Blood During Life in Scarlet Fever with Special Reference to Streptococcemia.—L. HEKTOEN (*Journal American Medical Association*, March 14, 1903).—The recent advertisements of a treatment of scarlet fever by anti-streptococcus serum have led to many misconceptions. Scarlet fever cannot be cured by it, and we are as yet not fully informed to what degree secondary streptococcus infection takes place in cases of scarlatina. Much more to be regretted is the inclination to consider streptococci, in some way or another, acting etiologically in scarlet fever. From a number of very careful observations Hektoen comes to the following conclusions: That streptococci may occasionally be found in the blood of mild, uncomplicated cases; that they are more frequent in the blood of more severe and protracted cases; that even in grave cases of this kind recovery occurs; and, finally, streptococci cannot be demonstrated always, even in fatal cases. The theory that scarlet fever is a streptococcus disease does not receive any support from this work. A noteworthy point of Dr. Hektoen's paper is that all through it the famous Class coccus is not mentioned.

Sur le Mode de l'Action des Antitoxines sur les Toxines.—J. BORDET (*Annales de l'Inst. Pasteur*, 1903, No. 3).—The contents of this important paper, which openly initiated the fight against the basal principles of Ehrlich's side-chain theory, can only be given in a concise way and cannot do justice to the subject. As is known, antitoxins act directly on the toxins, not on the organism carrying the latter, and the question has been whether this action asserted itself after the law of constant proportions or varied according to the conditions obtaining. Previously Bordet had intimated that the union of antitoxin and toxin might resemble the process of staining. It was then shown that a serum containing hemolytic substances would dissolve a much greater proportion of corpuscles if they were added at once, than when these corpuscles were added in small fractions. Bordet showed that a double amount is dissolved, so that in mixing hemolytic serum and corpuscles twice the quantity of amboceptors is bound, that is necessary for solution. But it was for Ehrlich and Morgenroth to demonstrate that these relations varied greatly, and that under certain circumstances a hundred times the solvent quantity of amboceptors can be combined with the corpuscles. In bacteriolytic sera this variation goes still farther, and 1000 times the solvent dose has often been found to be absorbed by the bacteria. Thus we see that the red corpuscles can anchor many more amboceptors than are necessary to destroy them. Eisenberg and Volk found the same relations for agglutinin, and Pfeiffer demonstrated them for cholera vibrios. Ehrlich has established the law of constant proportions for the action between antitoxin and toxin. Bordet, however, conceives it as similar to the relations obtaining between amboceptors and receptors; the action is determined by conditions of the equilibrium and "Massenwirkung." A proof for this is found by him in the observation that if 100 toxic units are added to 99 antitoxic units and injected into an animal, the animal does not die from the effect of the one not saturated toxic unit. Ehrlich's toxin investigation (the toxin spectrum) explains this fact readily, but Bordet believes that each toxin-molecule is possessed of five binding groups: if they are free, the toxin acts as a toxin; if they are combined with antitoxin, it is harmless; if only some are combined, the toxicity is attenuated. Since the susceptibility of different animals to the same toxin varies greatly, Bordet can easily understand why antitoxin-toxin mixtures are harmless for some animals and fatal for others. By very ingeniously arranged experiments the author tries to bring the analogous evidence for the

action of complements and anticomplements. He concludes that in them the law of constant proportions obtains as little as in the relation of antitoxin to toxin.

A Study of the Etiology of Yellow Fever.—(Yellow Fever Institute. Bulletin No. 13, Washington, 1903).—The working party sent out by the Treasury Department to Vera Cruz, Mexico, consisting of H. B. Parker, George E. Beyer and O. L. Pothier, gives in this report the results they have arrived at so far. The transmission of the disease by mosquitoes led them to believe in its sporozoic character; the search made for parasites in the human body was negative, as could not be otherwise expected after the work of Reed and Carroll. Then they directed their attention to the *stegomyia fasciata*, the carrier of the disease. Mosquitoes were allowed to bite yellow-fever patients and then killed and examined in certain intervals. After two or three days they found in their stomach great numbers of small fusiform bodies, that after a process of conjugation penetrated the wall of the stomach as zygotes and transformed into oocysts, that later on in their turn break up into sporoblasts. The latter migrate in the direction of the least resistance, that is the thorax, of the insect and thus reach the salivary glands. Arrived here the sporoblasts produce each a number of infinitesimally small sporozoites; these find their way into the lumen of the gland and are discharged during the act of biting. In its general course the development of this parasite in the mosquito is the same as that of the malaria parasite. It is illustrated by photographs, that allow of adequately judging about the described phenomena. Among a great number of mosquitoes examined, the parasite was never found; mosquitoes, biting healthy persons, never show them. But in any mosquito feeding on a yellow-fever case, they are, after a certain time, to be found. Persons bitten by such mosquitoes develop yellow fever, as was proven by actual experiment. The period necessary for the whole exogenous development of the parasites is not mentioned by the authors, but we may assume that it agrees with Reed's statement, that a mosquito, fed on yellow-fever blood, cannot transmit the disease within a shorter time than thirteen days.

So far the only evidence that this parasite is the etiologic factor in yellow fever is given by the observations that mosquitoes not infected by it do not cause yellow fever, that, on the other hand, those that contain it produce the disease by their bite, and that the *stegomyias* feeding on yellow-fever patients always show the described phenomena. From the moment the sporozoites are transferred to the human organism, they disappear, and we know through Reed and Carroll, that the organism present in the latter is so small that it passes through certain filters that do not permit the escape of the smallest objects visible with our highest microscopic powers. The assumption, then, must be that the endogenous cycle of the parasite comprises only infinitesimally small organisms, which, to become visible, must enter the mosquito's body. That such a thing can be imagined and may prove to be true teaches the inoculation period of malaria, in which nothing of the parasite can be discovered during its whole course, a fact that has suggested to many observers the probability that the sporozoites of the malaria-coccidium undergo a process of division, which reduces them, for a certain time, to dimensions not to be perceived. If the constant and exclusive presence of the *myxococcidium stegomyiæ* (this is the systematic appellation) in mosquitoes fed on yellow-fever blood shall be confirmed, these researches will open a new field for experiment and speculation. This confirmation is ardently looked for.

Die Paraganglien.—ALFRED KOHN (*Archiv fuer Mikrosk. Anatomie und Entwickl. Gesch.*, Vol. 62, Heft 2).—The nature and origin of the so-called

chromaffine cells has lately very often been the subject of discussion without a definite opinion being established. In a very extensive study A. Kohn has come to the conclusion that these cells form a specific system of tissue, genetically and anatomically connected with the sympathetic. Their peculiar position is based on their origin from the embryonal tissue of the sympathetic ganglia. At a certain stage of the embryonal development a differentiation of the cells takes place that leads to more or less circumscribed and larger and smaller masses of chromaffine cells appearing as multiple foci within the ganglia of the sympathetic nerve and of the plexuses. Partly these formations remain in continuity with the ganglia; partly, and especially in the large plexuses over the abdominal aorta, they grow out of them and form independent structures; Kohn calls them paraganglia and gives the same name to those agglomerations of cells that retain the position within the ganglia. This form of cells is characterized by the intense brown stain that their protoplasm shows in contact with solution of chromates. The main mass of these chromaffine bodies is found first as a single, and later as a double mass on the ventral surface of the abdominal aorta, from which proximal and distal portions are detached and appear as isolated structures. In all mammals the bodies occur as in man, as well as independent paraganglia as in the form of paraganglia situated within sympathetic ganglia. Embryologic investigations, furthermore, allowed the author to establish that the paraganglion aorticum abdominale sends out processes into the suprarenals by which they are enveloped and form the medullary cells of this organ. In the rabbit this connection remains intact until late in life, so that in this way the identity of the medulla of the suprarenals with the paraganglia is established the solution of a problem that has foiled the endeavors of so many investigators. The so-called carotid gland (paraganglion intercaroticum) belongs also to the class of chromaffine bodies; it is found in all mammals and in birds, but not in the lower vertebrates. While in men the paraganglia undergo retrogressive changes during childhood, they are permanent organs in the other mammals. Their physiologic meaning is uncertain, intravenous injections of their extracts increase the blood pressure; subcutaneously administered they produce glycosuria. The removal of the chromaffine substance is said to cause death in mammals. Tumors can arise in these structures, the cells of which are again chromaffine. Many of the so-called accessory suprarenals are probably of chromaffine nature. A beautiful orientation about these interesting structures is easily obtained by eviscerating an animal and covering the retroperitoneal space with cotton saturated with a 3.5 per cent. bichromate solution. After some hours all of the paraganglia appear in distinct contrast by their deep brown color with the yellow-stained surrounding tissues. Clearing with some glycerin makes the picture still plainer.

A New Cholera Vaccine and Its Method of Preparation.—RICHARD P. STRONG (*American Medicine*, Aug. 15, 1903).—Haffkine's method of vaccination against cholera has proved unreliable, and must be objected to on account of the serious disturbance it causes in the inoculated subject. The author was desirous of finding a better and less obnoxious way to this end, and succeeded, under Wassermann's guidance, in working out a vaccination method that is based on observations formerly made by Brieger, Wassermann and others. If bacteria are killed by heat and then allowed to disintegrate by autolysis, free bacterial receptors are found in the resulting solution. By means of such fluids a very active immunity can be produced without exposing the subject or animal to any discomfort or danger. The immunity thus obtained appears very quickly and lasts for a considerable period. Cholera-vibrios seem to lend themselves readily to this procedure; with vaccine thus prepared, Strong has immunized animals with absolute certainty. No local or general reaction follows the injections of the material if un-

necessarily high doses are not used, as the author has found by experience on himself. Experiments with immune serum showed that vaccine prepared from virulent bacteria neutralized much more serum than that obtained by avirulent cultures, a fact that must be explained by the greater number of receptors in the virulent form. Here Strong comes to the same conclusion that Pfeiffer has already drawn from his investigations.

Investigations About the Absorption of Tetanus Toxin.—V. MORAX and A. MARIE (*Annales de l'Inst. Pasteur*, vol. xvii, p. 335).—In a previous publication the authors had experimentally demonstrated that in tetanic animals the peripheral nerves absorb the tetanic toxin and carry it, step by step, to the nerve cells, a fact that had been assumed on the basis of clinical observation for a long time. The present paper deals with the search for those of the different nerve fibers that serve specifically the transmission of the toxin. For the horse, monkey and dog it was found that motor fibers *as well as sensory and sympathetic fibers* readily absorb the substance, and that no difference can be found in this respect between them. The greatest amount of toxin was found in the masseter muscles of the horse, which accounts for the constant and early appearance of trismus in this animal. The optic nerves were always found free from toxin; they explain this by the theory that the optic nerves are only a prolongation of the brain, and not nerves like the others. In the medullary and cerebral centers, as is well known, the toxin is not found because it is combined with the nerve cells. The question that is not yet solved is, what part these different centers play in the production of the motor symptoms of tetanus.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Repeated Cesarean Section with Transverse Fundal Incision.—FLATAU (*Centralblatt fuer Gynaek.*, No. 29, 1904).—Flatau performed conservative Cesarean section by means of the transverse fundal incision after Fritsch twice within two years on the same patient, both times with complete success. At the time of the second operation the author observed that the scar in the abdominal wall was firm, that the peritoneum of the abdominal wall, of the uterus and the intestines was perfectly smooth and no adhesions had formed anywhere. The scar of the uterine incision was hardly visible, and the uterine wall of normal thickness.

This case clearly demonstrates the advantages of the transverse fundal incision.

Ovarian Transplantation and Reconstruction of the Fallopian Tubes.—FRANKLIN H. MARTIN (*Chicago Medical Recorder*, July, 1903).—The author reports the detailed histories of the following two cases:

I. In a woman of about twenty-nine years both appendages had been removed for dysmenorrhea, the operator not having communicated to the patient previous to the operation the fact that it would be necessary to remove these organs. Upon learning that both ovaries had been removed she was very much horrified because she was engaged to be married. She refused to marry and began to look for a surgeon who would transplant other ovaries into her pelvis. Two years later the author performed on her the following operation: The re-

mains of the fallopian tubes were reconstructed so as to form two pervious oviducts. Incisions were made at both angles of the uterus, and the endometrium stitched to the peritoneal cover. Then the broad ligament was split beneath the end of the amputated tube. To the denuded area a portion of an ovary, taken from another patient, was attached by means of sutures. The same procedure was carried out on the opposite side of the uterus. The two portions of healthy ovarian tissue, transplanted in this manner, had been taken from another patient in whom laparotomy was performed for an impacted retroflexion. The operator having obtained the patient's consent previously, he removed one-third of each ovary from this woman. The specimens were kept in hot salt solution for preservation. Immediately after completion of the first operation the anesthesia of the other patient was started.

II. This same operation was performed on a patient who suffered from the usual symptoms of artificial menopause. She had previously submitted to two laparotomies—one two years previous to this date, in which one of her appendages was sacrificed; another a half a year later, in which the appendages of the other side were removed.

In both cases the uterus was found atrophied. Both patients made an uninterrupted recovery. At the time of the report nine and five months, respectively, had passed since the operation. Menstruation had not reappeared, discharge of mucus, however, was observed appearing at intervals of about four weeks. Both patients complained of attacks of rather severe pain, occurring about once a month, on one occasion described by the patient as "almost unbearable." Nevertheless, the writer considers his results satisfactory and promising. In his opinion this new operation will make it possible to relieve, in a large number of cases, the nervous symptoms following premature menopause, and demonstrates the possibility of re-establishing the menstrual and child-bearing function in women who have been obliged to sacrifice their ovaries and tubes.

Uterine Cancer and Pregnancy.—S. RECASENS (*Revista de Especial. Medic.*, June 20, 1903; rev. *N. Y. Med. Jour.*, August 15, 1903).—The sole possibility of cure in uterine cancer lies in total hysterectomy, performed before the parametrium and lymphatic system has been invaded. During the first four months of pregnancy the operation may be performed equally well by the abdominal or vaginal route. Abdominal hysterectomy is to be preferred, not only because of the greater facility of hemostasis, but also because extirpation of the parametrium and lymphatic ganglions is practicable by this method. During the fifth and sixth month the operative indications are the same as in the first four months because the life of the fetus is incompatible with the safety of the mother and it must be sacrificed. The abdominal route should be chosen. Abdominal hysterectomy during the first six months should be practiced without opening the uterine cavity. In the last three months the operative indication is also immediate; but Cesarean section followed by hysterectomy should be performed in the hope of saving the fetus. When the carcinoma has invaded the parametrium and the lymphatics, no matter what the period of gestation, all hope of a radical cure should be abandoned and the entire attention directed to the care of the fetus. In inoperable cases the period of viability of the fetus should be awaited, when Porro's operation should be performed, this being delayed as long as is compatible with the mother's condition. When, in inoperable cancer, if labor has commenced, if the bag of waters is intact, the indication for Porro's operation still holds good, and if the fetus is imprisoned the forceps should be applied after preliminary incisions in the external os.

The Value of Leukocytosis in the Diagnosis of Gynecologic Diseases.—WALDSTEIN and FELLNER (*Wiener Klinische Wochenschr.*, July 9, 1903).—All suppurations within the connective tissue surrounding the uterus will produce distinct leukocytosis, especially parametritis with deep-seated abscesses. As regards inflammatory processes in the uterine appendages, the authors observed that in all pus cases an increase in the number of the leukocytes was present during the acute stage, continuing even after the fever had subsided. The leukocytosis may later disappear, even when there is a pus sac still present. A second question studied by the authors was the relation between leukocytosis and gynecologic diseases in general. Leukocytosis occurs after severe hemorrhages; in cases of myoma, it is only observed if the hemorrhages follow each other at short intervals.

Adenomatous Changes in the Mucosa of Uterus and Tubes and Their Pathologic-Anatomic Significance.—R. MEYER (*Virchow's Archiv.*, vol. 172, part 3).—Adenomatous endometrium can sometimes be found deeply invading the muscular tissue of the uterus. As the result of the chronic irritation (especially in cases of gonorrhea and tuberculosis) the mucosa of the tubes may undergo adenomatous changes and penetrate into the muscular layer of the tube. Meyer pronounces these changes to be post-fetal formations, and concludes that this invasion of the muscular layer by adenomatous mucosa cannot be considered carcinoma, the process being one of "infiltration" and not "destruction."

Condition of the Endometrium in Cases of Uterine Myomata.—TH. S. CULLEN (*Jour. Am. Med. Ass.*, August 8, 1903).—From the gross and histologic examination of nearly one thousand specimens the author draws the conclusion that, where the tubes are normal and where no sloughing submucous myoma is present, the uterine mucosa will be perfectly normal, or show simple mechanical changes. These findings are of considerable practical importance. The absence of complications in the tubes and of a sloughing myoma will permit of a conservative myomectomy. Opening of the uterine cavity in the course of the operation will involve but little danger of infection.

Determination of Sex.—A. LITKENS (*Obsrenie Psychiatrii*, April 1903; rev. *Amer. Med. Jour.*, August 22, 1903).—This evasive problem has found a rather simple solution at the hands of the writer. He transfers the entire question to the lowest form of life, where the conditions are much less complex. If we study the propagation of bacteria, for instance, we find that it is of two kinds: In a warm, moist, nutritious medium they propagate by division or budding, while in unfavorable conditions they multiply by means of spores which do not require any nutrition for a long time, and are generally able to resist cold, heat, dryness, etc. It would seem therefore, according to the author, that when the parental organism is stimulated by privations incident to a struggle for life a better adapted offspring is produced than at other times. The same principle he applies to the higher animals and to man, asserting that whenever the parents are in a condition of high nervous tension, conception will result in male issue as a better adapted form; on the other hand, in times of ease, relaxation and comfort, conception will yield female issue. A series of observations is adduced to confirm these statements.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Indications for Gastric Lavage in Diseases of Infants.—PRONEAU (*These de Paris, Arch. de Med. des Enf.*, August, 1903) thinks that gastric lavage is not indicated at the outset of cholera infantum, except when the phenomena of collapse are not marked. It is indicated in acute gastro-enteritis with predominance of febrile gastric symptoms. It not only empties the stomach, but also diminishes the intensity of the general toxemia. It is furthermore indicated in the acute exacerbations of chronic gastro-enteritis, also in chronic indigestion. It may even give good results in intestinal irrigation. It is contraindicated in collapse, in dilatation of the stomach and in athrepsia.

Pneumonia and Pleurisy in Early Life Simulating Appendicitis.—GRIFFITH (*Jour. A. M. A.*, August 29, 1903) reports several cases (and has collected several others from the literature) where the early symptoms have pointed strongly to appendicitis. Marked pain in the right abdomen, with tenderness, rapidity of pulse, and respiration and elevation of temperature, with vomiting and constipation in some cases, usher in the disease. Examination of the chest at this time is frequently negative, but in forty-eight, seventy-two, ninety-six hours the classical signs of pulmonary consolidation show themselves, and the abdominal symptoms gradually disappear. The subsequent course of the disease is then the ordinary one of pneumonia. It is apparent that errors in diagnosis under these conditions may easily be made.

Griffith insists upon the necessity for careful examination of the lungs in children presenting these symptoms.

Additional points which may aid in the establishment of the diagnosis are:

- (a) Acceleration of respiration out of proportion to pulse-rate or pyrexia.
- (b) Relaxation of the abdominal walls between respiration.
- (c) Diminution or disappearance of the abdominal tenderness on deep pressure with the flat of the hand.
- (d) Possible presence of cough.

Two Anomalous Forms of Whooping-Cough.—JACOBSON (*Arch. de Med. des Enf.*, August, 1903) calls attention to the fact that during epidemics of pertussis, abortive cases occur, presenting all of the symptoms *except* the characteristic whoop. These cases would oftentimes not be recognized if there were no epidemic to arouse suspicion. They are dangerous from the view-point of prophylaxis, because unless recognized they aid in the dissemination of the contagion, thus favoring the extension of the epidemic. They are dangerous to the patient because they may be the starting-point of chronic pulmonary lesion.

A second abnormal form is the so-called "dyspeptic" one. This is characterized by the predominance of gastro-intestinal manifestation, loss of appetite, nausea, vomiting and coated tongue, mucous diarrhea, etc.; by attacks of fever accompanying these manifestations, by marked emaciation, and profound depression. These symptoms disappear with the cessation of the whoop. For their treatment a strict mild diet is indicated.

Hydrotherapy in Pediatrics.—BORTS (*Cleveland Medical Journal*, August, 1903) believes that the good effect of water in the treatment of children's diseases is not sufficiently recognized by the profession. He finds that hydro-

therapeutic measures are very easily carried out in private practice. It is not necessary to use very cold water in the treatment of children's diseases, as the same results can be attained with the bath at 90° for the child, that would require one at 70° for the adult. So too with the duration of the bath. Ten or twelve minutes is long enough for a child, in many cases six to eight minutes, instead of the fifteen or twenty minutes' duration in the adult. He notes particularly the soothing effect on children suffering with fever. In chronic diseases characterized by exhaustion he has had good results from the use of the hot bath, particularly in the later stages of long drawn-out cases of typhoid. Internally, washing of the stomach and colonic irrigation are also of great value in the treatment of cholera infantum and gastro-intestinal diseases. For the colonic irrigations he prefers a normal salt solution.

Treatment of Acute Gastro-Enteritis of Nurslings.—HUTINEL (*Rev. Mens. des Mal. de l'Enf.*, August, 1903) says that there are three therapeutic indications:

1. To remove the source of the poisons which form in the intestine.
2. To prevent the pathogenic germs in the intestinal tract from finding a medium favorable to their propagation.
3. To restore to the organism the water which it has lost.

He considers that these indications can best be met by the withdrawal of *all* food, and the giving of simple sterile water. Where there is much tendency to vomiting, the water should be given cold; if there be algidity, hot water should be used. Small quantities should be administered frequently, rather than large amounts at longer intervals—a dessert or a tablespoonful every fifteen or twenty minutes. For infants of five to six months the total quantity should not exceed 1½ pints in twenty-four hours; for older children larger amounts may be given. This treatment must not be continued too long—not over twelve to fifteen hours for a young infant, if any improvement show itself; for older children it may be continued twenty-four to forty-eight hours.

Where there is very persistent vomiting, gastric lavage is of service at times. This is especially valuable if there be associated thrush, when a mild alkali may be added to the lavage water.

For intestinal antiseptics, the author relies on broken doses of calomel, used at the outset only. Castor oil may be used if the stomach will stand it.

Colonic irrigation is of value at times, using salt solutions or mucilage; never boric acid, on account of its poisonous effects on infants.

For tympanites, warm cataplasms are of great value.

For profound depression, hypodermoclysis of salt solutions. Bismuth is sometimes of value; opium may very rarely be cautiously added.

For hyperpyrexia, warm baths.

Feeding must be very gradually commenced, using dilute milk, koumyss or buttermilk, with the addition of wheat flour.

[It is noteworthy that Hutinel, an undoubted authority of the French school, makes no mention of alcohol in the treatment of this condition; that he relies more on the withdrawal of all food and the substitution of sterile water, than upon drugs. The so-called intestinal antiseptics, except calomel, he has discarded as useless.—ED.]

Typhoid Fever in Children.—DUPAQUIER (*New Orleans Medical and Surgical Journal*, August, 1903) calls attention to the fact that typhoid fever is often unrecognized in very young children. This is largely due to the fact that the symptoms in children are often peculiar and misleading. The pulse-rate is apt to be very high, the stools are not characteristic, and tympanites is often absent. The roseola is not always present.

The spleen is usually palpable, but not very greatly enlarged.

The nervous symptoms are apt to be pronounced.

The onset is often atypical, and may simulate pneumonia, meningitis or appendicitis.

The Widal reaction is of the very greatest value because of these peculiarities, enabling many cases to be diagnosticated which might otherwise pass as simple gastro-enteritis.

The author believes that the diazo reaction, when positive, is a point in favor of the diagnosis, though, of course, not a pathognomonic one.

Relapses are more common than in adults.

With reference to treatment, the author relies on careful nursing, absolute rest and liquid diet, though at times these indications are hard to fulfill.

Dupaquier also insists upon the relation of typhoid to tuberculosis. It is probable that this relation is, however, merely indirect, the lowering of the body resistance by the typhoid being the great source of danger.

ORTHOPEDICS.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

Congenital Dislocation of the Radius.—CHAS. A. POWERS (*Jour. Am. Med. Ass'n*, July 18, 1903).—A child thirteen years old had a left upper extremity much shorter than the right, with its forearm in extreme pronation, and supination possible to only a very slight degree, flexion to 90 degrees being possible under force. The extensors of the hand are very weak, and the fingers are held slightly contracted in flexed position. The elongated radius is dislocated upward, forward and outward, lying on the outer and anterior aspect of the humerus. Two cases of this condition, with their operations, are given in detail, but on account of poor results, operation was not strongly advised in the author's case.

Sunshine vs. X-Rays and Finsen Rays in Tuberculosis of Joints and Bones.—DE FOREST WILLARD (*Jour. Am. Med. Ass'n*, July 18, 1903).—Sunlight, fresh air, good food, and fixation of the affected joints remain the most important agents for contesting tubercular infection. Direct exposure to sunlight of the whole body is essential, the head and eyes being protected by green, but the affected parts may be covered with blue screens, as they secure easiest passage of the actinic rays. Concentrated sun's rays are recommended by Finsen, Butler, *et al.*, and are valuable bactericidal agents, but the direct sun is most effective. The actinic rays and x-rays are apparently helpful, but it will take several years of experimenting to put the treatment on a determined basis.

The Correction of Deformity at the Hip—Best Methods and Best Positions.—VIRGIL P. GIBNEY (*N. Y. and Phil. Med. Jour.*, July 25, 1903).—After hip disease the deformity from faulty bony ankylosis is correctable either by breaking up the adhesions in the old joint or by doing Gant's subtrochanteric osteotomy. Relapses after either operation are not uncommon. The "centric" operation gives the greatest correction, but is likely to fire the old disease, while the Gant excentric operation is away from diseased foci, and usually gives all of the correction wanted, so it is the author's favorite. The straight position for the ankylosed hip is considered better than that of slight flexion.

Two Cases of Congenital Elevation of the Shoulder.—R. A. HIBBS and H. LOEWENSTEIN (*Med. Record*, August 1, 1903).—One case is dislocated upward four inches and at the middle of the posterior border articulated by means of a bony bridge five and one-fourth inches long and three and one-fourth inches broad, with the last cervical and two upper dorsal vertebra, the joint being pivotal.

The second case is due to a spastic condition of the muscles of the shoulder. The literature is reviewed and a classification is attempted, placing in the first class cases with bony bridges, in the second, cases with absolute absence of some shoulder girdle muscles, in the third class cases with long turned-over supraspinous portions of the scapula, and in the fourth class cases with no bony overgrowth, with scapula normal or smaller, with shorter or otherwise defective muscles.

Acute Epiphysitis Subsequently Simulating Congenital Hip-Misplacement.—J. P. LORD (*Jour. Am. Med. Asso.*, August 1, 1903).—The child, two years old, had pneumonia six months previous, when she had developed an abscess over hip which discharged, but soon healed. On examination the deformity was typical of congenital dislocation, there being no pain and the limb was freely movable in all directions save abduction, which was somewhat restricted. It was considered a dislocation and an attempt made to reduce by Lorenz method, which failed, and an open operation was done, disclosing the real condition, which was an entire absence of the head and neck. No attempt was made to relieve the condition at the operation.

Contribution to the Pathologic Anatomy of Painful Flat Feet.—M. KIRMISSON and BIZE (*Revue d'Orthopedie*, January 1, 1903).—Two fifteen-year-old children had the Ogston operation performed at the mediotarsal joint, and the excised portions of the astragalus and scaphoid bones were examined. Macroscopically there was some erosion of the joints and some injection of the bone. Microscopically there was cellular infiltration, as one would expect from a chronic irritation. That portion of the bone beneath the unused part of the joint was rarefied. The pain of the flat foot was attributed to this bony change, and it is taken as a further proof that Gosselin is right in considering metatarsalgia not a primary trouble, but secondary to the joint changes which follow breaking down of the anterior arch.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

On the Pathology and Bacteriology of Landry's Paralysis.—BUZZARD (*Brain*, spring, 1903).—This paper consists of, first, a brief critical review of our present knowledge of the bacteriology and pathology of Landry's paralysis. Second, a record of an investigation of a fatal case of the disease, including (a) the isolation from the blood of a micrococcus which does not conform with any organism previously described; (b) its discovery in the dura mater of the patient; (c) its inoculation into rabbits. It is assumed that Landry's paralysis is a species of acute intoxication of the nervous system. Based upon this assumption the following questions arise: First, is it a specific disease due to one micro-organism? second, if there is a specific micro-organism, can the same symptom complex be also produced by other organisms such as the bacillus of influenza,

of typhoid fever and of the gonococcus acting vicariously? third, is the same condition capable of being brought about by some poison or poisons as result of a disordered metabolism?

In other words, is it ever a sign of auto-intoxication? The fact that none of the above questions can be accurately answered, means that Landry's paralysis, according to our present knowledge, is a symptom complex and not a disease. The case which this paper is based upon is that of a man thirty-two years old. Fourteen days before admission he noticed numbness and burning in his upper and lower limbs. Stiffness and heaviness in his hands and feet followed three days later. The paralysis spread upward accompanied by shortness of breath and difficulty in swallowing. He died in eighteen days.

Nervous System.—The vessels of the piaarachnoid were all dilated and filled with blood. In some sections the red corpuscles had escaped from the capillaries and had formed minute scattered hemorrhages. The vessel walls showed no evidence of disease. A few foci of round cell exudation were found. The obvious deduction from these findings is that the morbid changes were very slight in degree of intensity, rather widely distributed and toxic in character. Cultures were made from the tissues and blood and the tubes were incubated at 38° C. The tubes inoculated with blood from the spleen and cerebro-spinal fluid remained sterile. A blood-agar culture of the coccus obtained from the heart's blood was injected into a number of rabbits. In one of these a non-fatal, general paralysis took place one week after inoculation. The central nervous system of this rabbit showed the following: 1st, marked engorgement of the vessels of the meninges of the cord; 2d, punctate hemorrhages; 3d, a few patches of leucocytal infiltration in parts of the piaarachnoid; 4th, diffuse marchi degeneration in the white matter of the cord and especially in the peripheral zone; 5th, a few degenerated fibers in the sciatic nerve; 6th, complete absence of organisms from the cord meninges. No cell changes by Nissl. The author notes the following conclusions as the result of his experimental studies: 1st, a micrococcus was isolated in pure culture from the blood of a patient who died of Landry's paralysis; 2d, an organism indistinguishable from that which was cultivated was found in large numbers in the external parts of the spinal dura of the same patient; 3d, a subdural injection of the cultivated coccus into a rabbit produced after some days a rapidly-spreading palsy; 4th, the same organism was discovered in the dura mater of the rabbit and isolated in pure culture from its blood; 5th, the changes in the nervous system in both the patient and the rabbit were of the kind produced by toxins, and in neither case was the microbe to be demonstrated in the nervous structures themselves nor in the piaarachnoid. Buzzard does not claim that all, nor even many, cases of Landry's paralysis are due to this organism, but he brings forward this study to pave the way for further investigation into obscure organisms at present unknown to us, which may exert their influence in some such way as this case illustrates.

Upon the Relative Affection of Muscles in Progressive Bulbar Paralysis.—COLLIER (*Revue of Neurology and Psychiatry*, August, 1903).—The object of this paper is to point out the early affection of the suprahyoid and infrahyoid muscles in many cases of progressive bulbar paralysis and to suggest that the dysphagia and dysphonia arising in the course of the disease are referable to the atrophic paralysis of these muscles rather than to the affection of the intrinsic muscle of the palate, pharynx and larynx. The various muscles in ten fatal cases of bulbar palsy were examined. Eight of these were of the amyotrophic lateral sclerosis type. The nature of the anatomical changes did not differ in the two types studied. As a result of this investigation, Collier believes that bulbar palsy is primarily and chiefly an affection of the hypoglossal nucleus and of the morphological continuation backward into the first and second cervical

segments, the ventral horns of which contain cells which supply the supra- and infrahyoid muscles.

A Contribution to the Study of the Pathological Anatomy of Chorea.—KOPCZNISKI (*Rev. Neurologique*, No. 15, 1903).—This is the study of a fatal case of chorea in a girl seventeen years old. As the number of cases of chorea of the infectious type which have been studied pathologically is very limited, this communication is an important contribution to the knowledge of chorea. The microscopic study was very thoroughly done, and the findings were practically negative, with the exception of a slight chromatolysis in certain cells of the cortex of the brain. This negative result confirms the results of many previous investigators. There are two prevailing opinions in regard to the pathogenesis of chorea: one is that the principal cause of the disease lies in a lack of equilibrium, either congenital or acquired, of the central nervous system; the other is that there is some infection of the organism by a pathological agent, possibly of the type of the organism that causes rheumatism, which produces a change in the quality or composition of the blood which acts especially upon the nervous system.

The Daily Rhythm of Epilepsy and Its Interpretation.—L. PIERCE CLARK (*Med. News*, July 18, 1903).—This is a study of the disease rhythm or periodic variation of epileptic seizures, based upon one hundred and fifty thousand convulsive attacks. Three plotted diagrams illustrate the article, and a fourth, by combining the features of the other three, shows graphically the author's conclusions, which can be thus summarized: This study of one hundred and fifty thousand seizures shows that there is a more or less definite rhythm in the epilepsies. In the early evening, noon-time and in the early morning, which roughly divides the twenty-four hours of the day into eight-hour periods. There are also smaller or secondary rhythms. The interpretation of the rhythm is explained on the basis of cerebral fatigue and the accumulation of waste products at these periods, which produce auto-intoxication, and which, in turn, exhibits itself in seizures during light sleep and during the day when the loss of cerebral inhibition is great. Secondary and contributing factors are manner of living, diet, exercise, occupation, sedatives and the character of the epilepsy.

A Contribution to the Study of the Blood in Manic Depressive Insanity.—FISHER (*American Journal of Insanity*, No. 4, 1903).—A preliminary study of ninety-two blood counts to establish the true condition of the blood in manic depressive insanity. The results of previous writers have varied so much that many different conclusions have been recorded. Fisher notes the following results: (1) There are no pathognomonic blood changes in cases of the maniacal phases of manic depressive insanity. (2) Anemia is not a causative factor nor always an accompaniment of this psychosis. (3) The hemoglobin and red cells are frequently if not always increased during the attack of excitement, for a leucocytosis is an almost constant accompaniment and probably a result of psycho-motor excitement. (4) Increase of weight accompanies mental improvement.

GENITO-URINARY SURGERY

IN CHARGE OF

H. McC. JOHNSON, M. D.

Constitution of Normal Prostatic Secretion.—STERN (*Am. J. Med. Sciences*, August, 1903).—The author considers the physical and chemical properties and constitution of the normal prostatic secretion together with its morphological elements. It is as yet impossible to single out the *specific* importance of the prostatic fluid, but we will not be very far from the truth in assuming that apart from an eventual specific chemico-enzymic potency, the secretion of the prostate gland is of importance in overcoming the quiescence of the spermatozoa, and in effecting that state of osmosis in the seminal fluid which is essential to fecundation.

The Toxic Actions of Urotropin.—COLEMAN (*Med. News*, August 29, 1903).—Urotropin is the most potent and reliable urinary antiseptic we possess. Its diuretic action, though marked at times, is not constant. As a solvent of uric acid and uratic calculi, it has not fulfilled the expectations of its advocates. Casper claims that it relieves phosphaturia in a remarkable manner.

In conclusion, the author says:

1. That the administration of urotropin may be, but is only rarely, attended by toxic effects.

2. That toxic actions (especially strangury) occur with comparative frequency if the urotropin is not properly diluted.

3. That the development of toxic effects is not always, or necessarily, correlative with the size of the dose of urotropin.

4. That individuals vary greatly in their susceptibility to the action of urotropin.

5. That urotropin has been known to produce the following toxic effects:

(a) *Minor Toxic Actions.*—(1) Irritation of the stomach; (2) diarrhea and abdominal pain; (3) Measles-like rash; (4) headache and ringing in the ears; (5) renal irritation, sometimes with albuminuria.

(b) *Irritation of the Bladder.*—(1) Strangury, the most common of the toxic effects; (2) irritant action on raw surfaces in the urinary passages.

(c) *Hematuria and Hemoglobinuria.*—Eight positive cases of hematuria, following the administration of urotropin, and one doubtful case, have been reported. In one case hemoglobinuria was associated with hematuria.

6. That the more important of these toxic actions have been produced by intravenous injections of formaldehyde.

7. That the toxic actions of urotropin are due either (1) to special susceptibility to the action of formaldehyde, or (2) to interference with the usual disposition of formaldehyde in the body, or (3) to the liberation of an unusual quantity of formaldehyde.

8. That the toxic effects of urotropin generally disappear completely within a few days after withdrawal of the drug.

The Treatment of Hydrocele by the Method of Seton.—SKIRVING (*British Med. J.*, July 25, 1903).—A seton is advised for the treatment of simple hydrocele. Under aseptic precautions a sterilized trocar and cannula are thrust from behind forwards completely through the affected side of the scrotum. The trocar is withdrawn, and two or three strands of silk-worm gut are passed through the cannula and secured. The cannula is next partially withdrawn, and the hydrocele emptied.

The cannula is then completely withdrawn, and the two ends of the seton tied together in front of the scrotum. Moist antiseptic (boracic) dressings are now applied. Four or five days are probably sufficiently long to leave in the seton.

The Present Status of the Surgery of the Prostate Gland.—THORNDIKE (*Brit. Med. and Surg. J.*, August 13, 1903).—In summarizing his subject Thorndike says:

1. That no prostatic should be allowed to suffer for lack of proper treatment.
2. That there is still a place for the catheter in such treatment, and that many patients can be made comfortable and can be kept so by its systematic and proper use.
3. That all those patients who cannot be kept comfortable by palliative means are fit subjects for some operation.
4. That the time for such an operation is just as soon as the inadequacy of palliative treatment is demonstrated.
5. That the operation of choice is always prostatectomy, but that this operation can be properly offered to those patients only whose general conditions make them fair surgical risks, and that such is rarely the case after sixty to sixty-five years of age.
6. That to all other patients the Bottini operation can be fairly offered as one attended with little risk to life, a short convalescence, and a good prospect of such a degree of improvement as will at least do away with any further necessity for the systematic use of the catheter.

Preliminary Report of Five Cases of Renal Decapsulation.—BLAKE (*Boston Med. and Surg. Jour.*, August 13, 1903).—These cases were operated upon during the past nine months at the Boston City Hospital. Two of the five are, for the practical purposes of business and occupation, well. Two have died at intervals of four days and six months after the operation. One is not relieved. All of the cases were operated upon simultaneously by two surgeons, one decapsulating the right, the other the left kidney. The operation was always followed by a temporary diminution in the amount of urine, but this quickly disappeared, and within a few days the amount usually exceeded that passed before the operation.

Curability of Vesical Tuberculosis.—MOTZ (*Ann. des Mal. des Org. Genito-Urin.*, July 15, 1903).—From the observation of eight cases of bladder tuberculosis, which were cured, the author says that one should never be discouraged nor lose hope of cure, even in the presence of very grave cases of vesical tuberculosis. We should endeavor to improve in every possible way the general health of the patient in order to aid the organism in its fight against tubercular invasion. It must not be forgotten that primary vesical tuberculosis, if it exists, is very rare, and that the vesical lesions that we observe are almost always of renal or genital origin. We should, therefore, study well the state of the kidneys, of the prostate and of the seminal vesicles. If we observe the presence of a unilateral tuberculous nephritis, we should intervene immediately and suppress this source of constant reinfection of the bladder. A vesical lesion, even very grave, is not a contraindication of nephrectomy. We know of cures of tuberculous cystitis, even very grave, but we do not know, up to the present, of the cure of a tuberculous nephritis clinically diagnosed.

If the prostate and seminal vesicles are infected by tuberculosis, one should frequently examine them to see if their lesions tend towards cure, a very frequent thing. In the cases where they commence to soften we will prevent irremediable destruction of the vesical neck by suppressing them the most completely possible.

Prostatic Hypertrophy and Its Radical Cure.—WILLIAM P. HERRICK (*Medical Record*, New York, August 15, 1903).—The author concludes: (1) These cases must be judged more or less individually. (2) When chronic posterior urethritis and prostatitis exist, these should receive appropriate treatment, the catheter used to withdraw residual urine, and the result carefully watched. (3) In patients in whom operation has become too hazardous we must endeavor to improve their general condition, and, if necessary, do aspiration or perineal cystotomy under cocaine, endeavoring to prepare them for radical operation or alleviate their symptoms. Advanced arterio-sclerosis should also be carefully considered. (4) Our responsibility is in recognizing and properly urging operation when indicated; if it is refused, we have done our duty, and the patient must abide the issue with such means as remain. (5) Palliative operations should rarely or never be done, from their hazardousness and inefficiency. (6) Prostatic hypertrophy is now curable by means of an operation which, though serious, is not hazardous when undertaken in proper time and manner. Failure of palliative treatment, of course, gives hope alone through operation, but should be anticipated rather than persisted in. In general infection, especially if repeated, as in irritable cases, obstructive cases, unless promptly relieved by the sound and under observation, if residual urine is increased despite catheterization, or the patient's general health is being impaired, all indicate the time for operation. (7) Anatomically, and now surgically, the simple perineal is the direct and preferable route. Rarely suprapubic exploration or lithotomy may be advantageously added to it. (8) As statistics accumulate, we believe that radical cure may further anticipate the course of the disease.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Sclerodermic Type of Lupus Erythematosus.—WILFRED B. WARDE, M. D. (*Brit. Jour. Derm.*, August, 1903).—It is well known that Dr. Warde believes lupus erythematosus is not a disease in the strict sense of the term, but a pathological condition that may arise in the course of many perfectly distinct diseases of the skin. From his observations he concludes that there occurs in patients who suffer from diffuse scleroderma of the face and hands, or from Raynaud's disease, a form of atrophying erythema, marked by the preponderance of the atrophy over the erythema and by the rapidity with which the atrophy often ensues. These patients show a marked tendency to gangrene of the finger-ends, and to the appearance, on the hands, and often on the feet, of erythematous lesions, sometimes purpuric in character. Till more accurate information is forthcoming as to the relationship of lupus erythematosus and scleroderma, these cases can very well be provisionally known as the sclerodermic type of lupus erythematosus.

Recurrent, Progressive, Bullous Dermatitis in an Hysterical Subject.—CHARLES J. WHITE, M. D. (*Jour. Cutaneous Diseases*, September, 1903).—The subject of this peculiar affection is a young woman of twenty-three years. She was well until the twelfth year, when an inflammation of the bladder and bowels occurred without apparent cause. Afterwards because peritoneal infection her ovaries were removed.

In 1900 a bulla appeared on the left foot, which was nearly healed when another appeared a little higher up. This procedure continued with weekly

attacks of fresh bullæ, always higher up than their predecessors, until at the end of the year the middle of the thigh was reached, when the eruption ceased for two months. In 1901 the disease began on the fingers, appearing in weekly crops and spreading up arm to shoulder, also a few confined about the ankle. This attack lasted nearly a year, and then ceased for two months. It appeared again upon the abdomen and chest, on left side.

The subjective symptoms have been the same for the last two years, namely: stinging and burning are felt, the skin grows red, in two hours exudation begins, and in four hours the bulla reaches its maximum size, when the patient feels at her worst. She draws off the fluid, and feels weak and languid for the ensuing twenty-four hours. The whole cycle requires about seven days for its completion.

The neurological report was that of hysteria. The examination of urine and blood showed nothing abnormal. A small incipient vesicle was excised for histological study. The stratum corneum was thin throughout, and was segregated from underlying structure, ragged and torn, and in many places wanting.

The rete Malpighii is the most interesting feature. Where repair is taking place the superficial cells are greatly disorganized.

From this complete study the writer thinks he has to do with a rather extraordinary hysterical dermatitis. To discover similar cases in literature, search proved unsatisfactory.

Some Precancerous Affections of the Skin, More Particularly Precancerous Keratoses.—M. B. HARTZELL, M. D. (*Jour. Cutaneous Diseases*, September, 1903).—A small number of diseases of the skin, after existing for a longer or shorter period as benign affections, exhibiting neither the clinical or histological features of malignancy, terminate in epithelioma. This termination, although far from being the rule, occurs in a sufficient number of cases to exclude the probability of mere coincidence, and to warrant the application of the term precancerous to such affections. These diseases do not belong to a single pathological group, but include inflammations, neoplasms, hypertrophies, and such alterations of the skin as may result from previous disease or injury.

The author reviews the diseases which may undergo this change: namely: eczema, psoriasis, dermatitis from tar, paraffine, lupus vulgaris and other forms of cutaneous tuberculosis; lupus erythematosus, ulcerative lesions of tertiary syphilis, new growths, congenital or acquired; chronic ulcers of the leg, cicatrices from any cause, arsenical keratoses. But the most frequent of all these, and therefore the most important, is that condition seen on the face and hands of adults past fifty, the so-called senile seborrhea, acne sebacee partielle, acne concrete of French authors, the senile keratoma of Besnier, a name to be preferred to any of the preceding. The author has studied material derived from five patients, in all of whom the keratosis was associated with epithelioma.

In all there was a marked increase in the thickness of the corneous layer, the nuclei being still present. The greatest increase in thickness was about the mouths of the hair-follicles and sweat-ducts, the former being filled with horny plugs. The granular layer had in most places disappeared, but was still well preserved about the hair-follicles and openings of the sweat-ducts.

In the newer lesions there was a slight increase in the width of the rete mucosa, with numerous dividing cells and multiplication of nuclei. In the older lesions there were all degrees of increase in the thickness of the rete up to actual invasion of the corium and beginning epithelioma. With the exception of a decided flattening out and in some cases the complete disappearance of the papille, the corium presented but little alteration. The sebaceous glands

showed nothing abnormal, but the coil glands and their ducts showed pathological changes in every case. They showed marked proliferation of their lining epithelium with increase of size of cells, so that the lumen of the tubes were frequently obliterated. Other parts showed cystic dilatation, with flattening out of the lining epithelium. In fact, such change was so uniformly observed in the sweat-gland apparatus that the writer is of the belief that these structures probably play an important role in this form of keratosis, a conclusion further supported by the fact that in other forms of circumscribed keratosis, more particularly arsenical keratosis, marked hyperidrosis sometimes precedes the appearance of the keratotic lesions.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

The Etiology of Ozena.—FREUDENTHAL (*Archiv fuer Laryngologie und Rhinologie*, Band 14, Heft 3).—The author in a very interesting and instructive paper read at the Fourteenth International Medical Congress at Madrid, discusses the etiology of ozena. He believes that this as well as baldness and impacted cerumen have a common cause, viz., the dry air furnished us by our modern heating devices, and to which he has given the name "xerasia." The dry air in passing through the nose absorbs all the moisture in the cells, resulting in their death and an atrophy of the mucous membrane as well as the deeper structures. The odor of these ozaena cases he claims is due to the action of the bacillus of Abel.

In closing, the writer gives the following conclusions:

1. Ozena is an atrophy of the nasal interior, which is brought about by atmospheric influences—xerasia.

2. The bony structures of the turbinates seem to atrophy early.

3. The consequences of the diminution of the moisture in the air are noticed in all parts:

(a) The nasal interior, and here belong diseased conditions which were formerly looked upon as different affections, as *ulcus septi nasi perforans*, atrophic rhinitis, and many forms of epistaxis, etc.

(b) Neighboring parts of the body (scalp, ears, lips, teeth).

(c) Possibly other parts of the body.

4. To make an ozena out of this atrophy, an invasion of large numbers of diplococci similar to Friedlander's bacillus is necessary.

5. This invasion occurs at a very early period in life and is probably in many cases carried directly from the vulva.

6. Local areas of disease are frequently the result of an ozena.

7. According to the above, ozena is a genuine disease with atrophy as its basis.

The Cause and Specific Treatment of Hay Fever.—MAYER (*N. Y. Med. Jour.* and *Phila. Med. Jour.*; August 8, 1903).—In giving his experience with Prof. Dunbar's toxine and antitoxine, the writer states that it was about the same as that of Dunbar himself, and that of Semon and McBride. He obtained the same reaction in practically all of the spring hay fever cases; there was absolutely no reaction to be obtained in the autumnal cases, and that in each instance, save one, there was no reaction in the control cases. As the experiments were made only with the rye pollen toxine, the reaction in the autumnal cases might have been

brought about if some one of the other toxins had been employed. Mayer states, further, that it is too early to discuss the outcome of these investigations, but is inclined to believe that the cause and treatment of the spring variety of our American hay fever are known, and that it should not be difficult to find the toxin for the autumnal variety.

On the Influence of Hypertrophy of Parts of the Lymphatic Ring of the Throat in General and of the Adenoid Tissue in Particular on the General Health.—W. N. NIKITIN (*St. Petersburger Medicinische Wochenschrift*, No. 27, 1903).—In a very comprehensive article Nikitin reviews the symptoms and remote effects of hypertrophy of the lymphatic ring of Waldeyer. He states that when we speak of a patient having adenoids or hypertrophied tonsils, we point out only the locality where the disease process is most prominently developed. The disease manifests itself beyond the limits of the lymphatic ring and involves the deep lymphatic glands in the neck, which are nearly always more or less infiltrated.

He also calls attention to the fact that recent physiological observations made by Duval teach us that the lymph glands in the throat produce only the ordinary leucocytes, which are entirely different from the phagocytes, and that Lexer's experiments on animals have proven that those areas which are richest in lymphoid elements are most easily infected, whereas the oral cavity, which is only poorly supplied with these tissues, is rarely infected. The latter, the writer states, only proves what is a daily observation on human beings.

In this review the author wishes to point out that hypertrophy of parts of the lymphatic pharyngeal ring really has deleterious influences on the general health, not only of children but adults as well. He wishes also to call attention to the necessity of a thorough removal of adenoids, for a spontaneous disappearance of the remaining growths cannot be counted upon, as these often give rise to trouble later in life.

On the Relation of Pharyngitis Granularis and Lateralis to Tuberculosis.—SOKOLOWSKY (*Archiv fuer Laryngologie und Rhinologie*, Band 14, Heft. 3).—In order to determine the relation of a granular pharyngitis to tuberculosis the author removed the granulae from the throats of thirty-four patients and had them examined histologically. Among that number thirteen had tuberculosis or lupus of other organs. Of these thirteen the microscopical examinations of the granulae, eight showed tubercular infiltrations. In one case in which tuberculosis was not even suspected, the histological examination of granulae revealed tuberculosis. An examination of the lungs later showed a slight involvement of the left apex.

The writer's conclusions are:

1. That a pharyngitis granularis or lateralis is often of a tubercular nature when there is a tuberculosis or lupus present in some other part of the body.
2. That the tubercular involvement of these granulae correspond to the latent tuberculosis found in the tonsils.
3. That the extirpation of these granulae can often lead to a diagnosis, and prove to be of prophylactic and therapeutic value.

The Principles of Rhinologic Practice.—PYNCHON (*Laryngoscope*, July, 1903).—The author states that idealism is the goal aimed at in the practice of medicine, and he strongly advocates idealism in rhinologic practice. A structural deformity of some kind will be found present in the noses of all, or nearly all, who apply for relief from nasal troubles, and the rhinologist will do his patients the most good by taking such steps as will cause the nasal passages to resume

the conformation and potency of the ideal standard. Just what constitutes the ideal standard and the rules for obtaining it the writer gives the following:

1. In the normal nose the nostrils should be of equal caliber, and should jointly have a sufficient capacity to at all times supply the requirements of easy nasal respiration.

2. In the ideal nose the walls of the septum are practically plane, and are at no time or place touched by the tissues of the outer wall in either passage; and, furthermore, no points of contact exist elsewhere therein so as to interfere with either ventilation or drainage, or prevent the normal evaporation of nasal moisture.

3. While in an ideal nose the septum is vertical and nearly plane, a moderate irregularity thereof will not impair the nasal respiratory functions, providing there are no points of contact or abrupt elevations therein, and the lumen at all points is sufficient.

4. Abnormal redness of the nasal mucous membrane is an unfailing sign of irritation, the cause of which is generally of a structural nature, and therefore amenable to surgical treatment.

5. The indications for operative interference depend upon both the subjective and objective symptoms. A noticeable inadequacy of either nasal passage, the presence of excessive or retained secretions, or an abnormal redness of the mucous membrane at any point, are all evidences of abnormality which, if coupled with inconvenience to the patient, invite corrective attention.

6. In the treatment of chronic hypertrophic nasal troubles the indication is to remove all obstructive, redundant or pathologic tissues, and at all times the chief indication is to cause the defective nose to conform as nearly as practical to the contour and character of the ideal standard.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

The Need of a Supplementary Lantern Test for the Proper Examination of Color Perception.—(*Boston Med. and Surg. Jour.*, July 30, 1903).—Experience has shown that some individuals can pass the Holmgren wool tests correctly and without hesitation who are yet unable to distinguish the red and green lights of a distant signal. Cases of this sort have usually acquired a central defect for colors as the result of the use of tobacco or alcohol, or both, and the wool tests are large enough to affect the retina outside of the scotoma. Small objects, like distant signal lights, form their image entirely within the area of color scotoma, and hence their color is not recognized. It is important, therefore, to have a test for railway employes which shall, as nearly as possible, reproduce the conditions of actual service. In 1892 Williams constructed a lantern which has undergone several modifications. In its present form (1903 model) it consists of a revolving disk carrying eighteen colored glasses. Two incandescent lights, whose intensity is varied at will by means of a rheostat, illuminate two openings before which the glasses of the disk can be rotated in succession. A shutter permits one or two lights to be shown at a time. Experience has shown that with two lights showing, a person with defective color perception is often more confused than when he is asked to name only a single light. Each colored glass has a corresponding number which is recorded with the color named.

The test is made in a darkened room, with the lantern twenty feet from the person examined. At this distance the area of the larger opening corresponds to the apparent size of a standard switch light at a distance of one hundred and sixty feet. The area of the smallest opening corresponds to a switch light at a distance of one thousand three hundred feet.

Williams concludes that the lantern test and Holmgren wool tests, carefully made, will not permit any dangerous case of defective color sense to be passed.

A Balance for Knife Testing.—PRIESTLEY SMITH (*Ophthalm. Review*, August, 1903).—The little instrument devised by the writer is intended to supplement the simple drum-head covered with kid in testing the puncturing and cutting capacity of the various knives used in ophthalmic surgery. It consists of a miniature see-saw, one arm bearing the drum, the other marked in grams and carrying a sliding weight. To test the point of a knife the drum is placed with the leather horizontal. The weight is moved down the scale until the point gently pressed down in the transverse diameter of the drum-head persistently punctures the leather.

To test the edge the knife is passed through a slit in the leather placed vertically, and the weight moved down until gentle pressure cuts the kid instead of depressing the arm bearing the drum-head. The instrument gives a more accurate test than the unaided hand. With a given piece of leather it is possible to place a number of knives in order of merit and to determine the effect on a knife of immersion in boiling water, antiseptic fluids, and of use.

Treatment of Trachoma.—J. H. CLAIBORNE (*Med. Record*, August 8, 1903).—Claiborne classifies trachoma into (1) non-inflammatory and (2) inflammatory.

The non-inflammatory type is characterized by the formation of sago grains on the mucosa of the upper and lower lids, and is, according to the writer, distinctly contagious.

The inflammatory type is ushered in by an acute conjunctivitis, accompanied by lachrymation, photophobia and discharges. Discrete granulations appear, which coalesce. Finally the lids cicatrize and pannus forms.

The treatment is either medical or surgical, or both. Astringents are always beneficial. Jequirity is dangerous, and should be restricted to cases of severe pannus and keratitis. "Silver nitrate is of but slight value in the treatment of real trachoma." Claiborne pins his faith to the copper sulphate crayon, which he applies in the following manner: The upper lid having been everted, a thin, smooth parallelogram of the crystal is carried well up to the cul-de-sac and brushed lightly across. This same procedure is carried out in the lower cul-de-sac. The excess of copper is then wiped away.

Especially baneful are the effects of dust, smoke and vitiated atmosphere. Often a lasting cure is effected only after an entire change of surroundings.

Surgical treatment is most effective in cases with sago grains. Methods include (1) grattage, or scrubbing the surface of the lids with a coarse brush and rubbing in a 1-500 sublimate solution; (2) galvano cauterization of granules; (3) cauterization with a platinum probe; (4) scarification, followed by electrolysis along the lines of incision; (5) excision of a strip of conjunctiva containing granules; (6) curettage after opening the capsule of the granulation with a knife; (7) scarification, and (8) expression. The latter is "the most reasonable, thorough and effective form of treatment." The technic of the operation (performed with Knapp roller forceps, or one of its modifications) is as follows: The everted upper lid is grasped at its folded edge by fixation forceps and pulled forward and upward. The rollers, one above and one beneath the folded lid, are carried well back, the handles are brought together and the rollers drawn

forward. The granules are thus "expressed." The same procedure is carried out on the lower lids.

Claiborne has devised a roller forceps which consists of roughened elevations arranged in parallel on cylinders. In rolling, these forceps rupture the surfaces of the granules and thus allow easier expression. Advantages over fluted cylinders are (1) less force is required to destroy the granules, (2) absence of post-operative swelling.

In order that the expression may be thorough, general anesthesia is necessary. The after-treatment consists of zinc and boric acid collyria till the post-operative membrane has disappeared. Then 1 per cent. silver nitrate for a few days and finally copper sulphate crayon.

In acute inflammatory trachoma the granules, whether discrete or confluent, should be expressed. Medicinal treatment should be applied in cicatricial cases with clouded cornea. Atropine in pannus is unnecessary or harmful, and should be reserved for cases where iritis is very positively present.

Subtropical Trachoma.—R. A. WRIGHT (*Jour. A. M. A.*, August 8, 1903).—Dr. Wright believes that the disease as it appears in southern Alabama is relatively milder than it is in Germany. He has met with no cases in negroes.

The paper is a plea for the more extensive use of copper citrate in this affection. Its principal claims for consideration are (1) that it produces absorption and disappearance of granulations and hypertrophied papillæ quite as rapidly as other preparations; (2) that it produces less irritation in the lids, less pain and discomfort to the patient; (3) that patients will use it regularly in home treatment. Excessive secretion must first be controlled by silver nitrate. Wright recommends a 3 per cent. to 10 per cent. ointment, applied twice daily.

MISCELLANEOUS ITEMS.

THE LOUISIANA PURCHASE EXPOSITION will exhibit more features of particular interest to the medical profession than has ever been attempted in the history of World's Fairs. This is very gratifying, and the profession will appreciate and heartily second the efforts of the management to make these exhibits a prominent part of the exposition. The science of medicine has made rapid progress in the past few years, and the education of the masses in the matter of preventing disease is not the least of what is being done in prophylaxis and in the control of disease when it has become active. The World's Fair of 1904 will exert a tremendous influence in this direction.

THE PREPARATION of a "Pathological Laboratory" made up from the museums of hospitals and medical institutions to show the diseases of special organs as well as the normal organs is under way as a part of the exhibit of the Charities and Corrections section of the Department of Social Economy. Supt. Alvin E. Pope, of this section, has written to prominent physicians in various parts of the country, asking them to contribute from their collections such specimens as will carry out this general scheme. Each disease specimen will be preserved in some attractive way, so that it can be readily examined, and will be accompanied where possible by a microscopic slide showing the micro-organism which causes the disease. In connection with the pathological laboratory exhibit, models, drawings, photographs, charts and statistics relating to noted hospitals in this and other countries will be shown.

GERMANY WILL exhibit a complete set of instruments, utensils and other apparatus used in a fully equipped medical college. This should prove a most interesting exhibit.

HIGHER EDUCATION of the trained nurse is discussed editorially in *The Trained Nurse and Hospital Review* for August, 1903, and in the same number is published a reprint or an article by Francis P. Denny, of Brookline, Mass., and an editorial from the *Brooklyn Medical and Surgical Journal*. The subject is an interesting one to the nurse, the doctor and the hospital. The advantages gained by a preparatory study entered into for the purpose of fitting one to properly discharge the duties he assumes when he crosses the threshold of that profession, trade, occupation or service which he chooses for his life's work cannot be overestimated. Dr. Denny advocates the establishment of an institution for the training of nurses independent of the hospital, from which institution the hospital would draw its supply of nurses. We suppose it will come to this, and we believe it will be a benefit and satisfaction to the nurse and the hospital as well as the physician. Such a department could be added to an educational institution, and the hospital would receive women prepared to enter the sick room and capable of discharging the duties with intelligence and precision. The trained nurse is an important part of the medical profession, an indispensable aid to the busy physician, a comfort to the patient, a friend of the family. She cannot be too well trained; she cannot be too highly educated. It is, therefore, with a feeling of gratification that we see her reaching out for more light, more knowledge, and evincing a determination to develop all that is in her for the advancement of her profession. We do not fear that the higher education of the trained nurse will render her less helpful to the community or induce her to demand more pay for her services. On the contrary, we have faith in human nature, and we believe the elevation of the standard will draw to the ranks that class of individuals who feel themselves capable of rising to the heights which others have reached.

THE AMERICAN MICROSCOPICAL SOCIETY will hold its annual meeting in St. Louis during the week of December 28th of this year, in affiliation with the American Association for the Advancement of Sciences.

BOOK REVIEWS.

LES ENFANTS RETARDATAIRES. Par E. APERT. Paris: J. B. Bailliere et Fils. pp. 95.

This little monograph presents in condensed form the existing views on the subject of arrested development of children. The various types of infantilism, of myxœdema, as well as certain other forms of arrested development, intellectual, as well as physical, are reviewed. There follows a discussion of causal local lesions. The book will well repay careful reading.

LES MALADIES INFECTIEUSES. Par G. H. ROGER. Illustrated. Masson & Cie, Paris. pp. 1496. 1902.

Professor Roger's work on the infectious diseases is one of the most important contributions to a department of medicine that has received much attention of late. The author's original and experimental researches in this field have been very extensive, and in this work he presents not only his own views, but also a resume of the opinions of leading authorities on the various questions. After general consideration of infectious processes, their etiology, pathogenesis, and the reaction of the organism to them, the special varieties of infection are studied in detail. Then follows a minute study of the changes produced in the various organs, a discussion of immunity and predisposition, and finally a general discussion of diagnosis, prognosis, and treatment.

The value of the work is greatly enhanced by the extensive bibliography appended throughout. The work may truly be regarded as a reference cyclopedia upon the subject.

THE CONCISE OBSTETRIC RECORD. Published by the Systematic Record Publishing Co., Detroit, Mich. Sent prepaid on receipt of \$2.00.

This book consists of two-page blank forms for keeping complete records of obstetric cases in a concise form. These blanks are very conveniently arranged and fully meet the requirements of such work. The possibility of summarizing each year's work with the help of this book offers to the busy general practitioner a great variety of important advantages. We think that no physician who does a great deal of obstetric practice can afford to be without such a means of recording his cases.

A NURSE'S HANDBOOK OF OBSTETRICS. For use in Training Schools. By JOSEPH BROWN COOKE, M. D. Philadelphia and London: J. B. Lippincott Co. 1903. Price, \$2.00.

This volume is destined to fill a long-felt need. It contains all of the science and art on obstetrics that a nurse need know in order to practice her profession in an intelligent manner. The subject-matter is presented in a way that will be perfectly clear to the beginner in the study of nursing. We would, however, state here that some of the writer's teachings, most probably in his endeavor to avoid too complex and intricate problems, are not entirely compatible with the doctrines of modern obstetrics.

As a whole this book must be considered a most valuable contribution to medical literature. It will undoubtedly prove a welcome aid to teachers in training schools.

A THESAURUS OF MEDICAL WORDS AND PHRASES. By WILFRED M. BARTON, M. D., Assistant to Professor of Materia Medica and Therapeutics, and Lecturer on Pharmacy, Georgetown University, Washington, D. C.; and WALTER A. WELLS, M. D., Demonstrator of Laryngology and Rhinology, Georgetown University, Washington, D. C. Handsome octavo of 534 pages. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Flexible leather, \$2.50 net; with thumb index, \$3.00 net.

This work is presented as the only medical thesaurus ever published. It is intended to assist those who have to write or to speak to give proper expression to their own thoughts. In order to enhance the practical application of the book cross references from one caption to another have been introduced, and terms inserted under more than one caption when the nature of the term permitted. In the matter of synonyms of technical words the authors have performed for medical science a service never before attempted. This thesaurus of medical terms and phrases will be found of great value to all persons who are called upon to state or explain any subject in the technical language of medicine.

NEW BOOKS ANNOUNCED.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER. By G. L. RICHARDS, M. D. Profusely illustrated, bound in cloth, about 375 pages. Price \$2.00. International Journal of Surgery Co., New York.

THE DISEASES OF SOCIETY. A Work on Sociology, Embracing Criminology, the Social Evil, etc., will be published shortly. The volume is written by G. FRANK LYDSTON, M. D., of Chicago.

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ORIGINAL ARTICLES.

REVIEW OF EIGHT YEARS' WORK AT THE ST. LOUIS INSANE ASYLUM.

BY EDWARD C. RUNGE, M. D., of St. Louis, Missouri.

Annual reports are in my opinion best to be considered in the light of a yearly accounting rendered the people to whom we are ultimately responsible for the proper administration of a public trust. To some this ever-recurring obtrusion of interests apparently so foreign to normal civic life, may prove distasteful; they would prefer to shut their eyes and ears to constant appeals in behalf of those who are branded either temporarily or permanently, intellectual misfits of the body politic. The English "Madhouse," the German "Narrenhaus," the French "Maison des foux"—with all of their horrors, shrieks and gnashings of teeth—do not represent long-spent evolutionary phases to many who, ostrich-like, refuse to use their senses, and using them, may learn that while they stand still, the world "do move." Gross misconception and long-cherished prejudice regarding insanity and the insane, are rampant at this late day, and it behooves the workers in this field of human endeavor to spread knowledge at all times and in all places; dissemination of knowledge must be followed by awakening of public conscience which is essentially the force making for protection against abuses of any and all kinds.

On the threshold of my third administrative term I may be permitted to submit an accounting to the profession and my fellow-citizens in the shape of a short resume of work done, results attained and plans deferred, within the last eight years of this institutions's life. As early as 1895 I strongly inveighed against the stigma of the latter's official title, recommending a change to the "St. Louis Hospital for the Insane." While my prayer has not been granted thus far, the following pen-picture may go to prove that methods adopted have lost their purely custodial character and conform today with modern "hospital" ideas. I am penning these lines at midnight of a cloudless summer's night when every window of the large institution is wide open, permitting the cooling breezes to enter and any possible noises to penetrate to the outside world. To the uninitiated it may appear almost miraculous that from the abode of seven hundred mentally afflicted not a single unusual sound reaches their ear, the reigning stillness of the night being rudely broken only by shouts and laughter of drunken revellers making night hideous at the adjacent street-corners. On such a night as this, which is not exceptional by any means, the visitor would find the wards filled, rather uncomfortably filled, with peaceful slumberers under the watchful eye of noiselessly moving night nurses. The latter may report that in the earlier part of the night some cases had called for the administration of a prolonged bath, of

additional food or of a few sleeping potions; the latter rarely number more than twelve. Outside of ministering to some other small wants and meeting possible emergencies the chief task of the night nurses consists in exerting a soothing influence. Kindly human presence is gratefully appreciated by a highly sensitive organization during the hours of darkness, when overwrought imagination is apt to paint fancied dangers and pitfalls in more vivid colors than during the hours of daylight. It took me two years of unremitting efforts to bring our night force to its present fair degree of efficiency.

In order to give the reader an adequate idea of the methods pursued in the treatment of the different phases of insanity, let us follow up a few cases from the very first. The great majority of our patients reaches us by way of the City Hospital, which at its present site has no adequate facilities for dealing with the insane. In my annual report of 1896-97 I pointed to this inadequacy in the following manner:

“As the patients are brought to us against their wills, their admission should be deprived as much as possible of all objectional features. An early shock to a sensitive nature may do irreparable damage, and could be mostly avoided if proper provisions were made. The admission to this hospital of a great number of patients through the City Hospital is full of obnoxious features. The City Hospital, in its chronically congested condition, without the proper facilities and trained attendants, is an exceedingly undesirable abode for the insane subjected to the process of preliminary observation. The overcrowding with patients and the deficiency in the number of attendants, necessitates a proceeding which seems to be most seriously rebelled against. I refer to the restricting of the patient's locomotion by means of a long strap attached to the bed by one end, while the other end encircles the patient's ankle. “Like a monkey tied to a grind-organ,” “tied like a vicious cur,” are frequent comments of our patients after admission here, uttered with so much disgust and indignation as to point clearly to the perniciousness of the whole process. Spacious and comfortable detention wards are a crying necessity, and a provision for such should not be overlooked in the plans for the new City Hospital.” . . .

There is hope for the establishment of better accommodations in the near future, which should make the insane beneficiaries of early scientific treatment.

Reverting to our pen-picture, let us depict the usual course pursued in handling some typical cases after their admission. First of all, we receive a young girl in a state of acute mania—*i. e.*, the only genuine “maniac” of popular belief. The malady is characterized by a high degree of emotional and mental excitement; she talks incessantly, the articulatory apparatus often not being able to keep pace with the kaleidoscopic imagery of the brain; then she sings in snatches, dances about, climbs up on bars and screens, is at times abusive, not rarely destructive, always sleepless. This classic picture of morbid mental activity is accompanied with a marked physical let-down, with a lowering of all vegetative functions and great emaciation, partly due to persistent food refusal. Physical ailments elicited by the entrance examination receive at once the same attention as they would in the mentally unafflicted. Oft-repeated and prolonged warm baths, if need be; the administration of tonics and sedatives in case of unyielding sleeplessness, of a mild hypnotic (never morphine); forced feeding with most assimilable food and plenty of it; temporary isolation in a room (not padded cell, as popularly believed), away from exciting environment, then

again bed rest—these are the measures resorted to. After some time the excitement subsides, and is often followed by a period of reaction bordering on lethargy. At this stage psychic stimulation is full of help and promise; daily exercise in the open air on the lawn and amidst trees and flowers; removal to the convalescent ward with its pretty pictures, curtained windows, neatly furnished sitting room and dining room, its well-stocked library, piano, easy chairs, with its chorus drills and general cheerfulness; gradual introduction to light work, and to weekly and special entertainments characterized by good music, stimulating addresses on topics of the day and special features—all these tend to remove the ill effects of the malady from which our patient not rarely emerges completely recovered, and is able to resume her social position and her former duties.

The next patient presents clinical manifestations diametrically opposed to the ones cited above: in place of the elation and pleasurable excitement we find here the psychic self clouded by a profound depression with or without hallucinations and delusions of a self-depreciative nature, and then again a state of extreme agitation expressive of deep mental anguish. The melancholiac is the only actual sufferer in our hospital and not rarely offers stubborn resistance to our efforts at alleviation. Most careful bed-nursing with a view of preservation of vital energy, unrelenting struggle against absolute food-refusal and sleeplessness, and following in their wake, measures of psychic stimulation related above, will often yield satisfactory results. As this class of patients is always possessed of an irresistible tendency to self-destruction, constant watchfulness must be exercised, and even then successful suicides will occur, as shown by three cases recorded against our institution in the last eight years. The difficulties in guarding against such incidents are not appreciated by the laity; as a case in illustration I may cite that of a woman who through ups and downs had been safely guided past the shoals of suicidal mania during her three years' sojourn in our midst. Two charitably inclined women removed her recently from the hospital, in the face of my vigorous protest and in full confidence of their ability to cope with the difficulties explained to them. Five days after her release the patient succeeded in eluding her self-appointed watchers, purchased some carbolic acid, and died two hours after.

Of all the varied types of mental disease none is so apt to impress the uninitiated with such utter hopelessness as a case of "stupor." The patient does not give evidence of a spark of spontaneous conscious life, he is speechless, expressionless, sits immovable, in an attitude of complete apathy while the vegetative organs continue to do their work in a perfunctory way—in every respect the patient appears to be an automaton most nearly akin to the brainless frog of experimental physiology. As soon as it is recognized that the condition is not due to permanent organic disease, but to exhaustion of the brain, active measures are taken with a view to correcting nutritional faults and stimulating the physical and psychic make-up of the sufferer. Gradually the brain regains its normal equilibrium, and its owner eventually finds himself fit to return to useful citizenship. Not every case of "brain-fag" is allowed to reach the low depths of "stupor" before admission to the hospital. The neurasthenic whose nerve energies have suffered through shock or the grinding process of daily strife, appears not rarely at our gates as a voluntary applicant for treatment, bringing in person the requisite commitment papers. His means do not permit him the

luxury of a private sanitarium and the general hospital with its multitude of physical sufferers and its surgical atmosphere has proved to be an unfit abode for an individual with a shattered nervous system. Quite a number of such patients have left us in the past after partial or complete recovery, carrying with them the conviction of having found in our convalescent wards with their scrupulously selected denizens and their atmosphere of reposeful leisure, a haven of absolute rest. "Nervous prostration" has ceased to be considered a rich people's disorder since it has been found prevalent among the dwellers of the tenement districts. There is no help for the latter unless their environment can be radically changed, for even the opulent sufferers do best away from their home surroundings. As the municipality is struggling with so many elementary problems, relief in this direction can hardly be expected from it. Private charity which every few years contributes to the erection of new general hospitals would cover itself with undying glory by the establishment of a sanitarium for nervous diseases for the poor with special wards set apart for pay-patients, thus rendering the institution partly self-supporting. Early and proper treatment of the nervous diseases will, in many instances, stay the development of insanity, which alone would give the suggested sanitarium its *raison d'être*.

Occasionally we receive a patient suffering with septic or typhoid delirium, whose mental manifestations are of such a nature as to render the facilities of a general hospital inadequate from a point of view of safety for the patient and others. In the course of the year a young man was brought to us afflicted with a grave form of typhoid delirium; he received the most careful nursing and treatment in accordance with modern methods prescribed for this disease, and after four months was able to return to his parental farm. I mention this case partly to show that our attention is not entirely taken up by our special line of work. The insane who dwell around us are subject to every and all diseases that human flesh is heir to. Not an organ, not a single portion of the human body, but may present in the insane the same morbid picture as we find in the mentally sound. While our sick-chambers are fairly well equipped with comfortable hospital beds, air-beds for the bed-ridden, fly-screens, filtered water, deodorants, and effective disinfectants of our own manufacture, and, last not least, with attentive nurses, still we are very much handicapped in our work by the fact that these sick-chambers are integral parts of a general, greatly overcrowded ward. In speaking in behalf of the erection of a specially equipped, detached building I had this to say in my third annual report: "Such an infirmary would not be in the nature of a makeshift, but will fill permanently a long-felt want, which sooner or later will have to be filled. I will mention but a few points that will indicate the crying need for such a building. Until it is erected, we shall be compelled, first, to place patients afflicted with tuberculosis, erysipelas, diphtheria, etc., on the crowded general wards, isolation being out of question; secondly, to allow child-birth to take place at times in the most disturbed wards; thirdly, to have the most feeble and unclean patients mingle with the clean; fourthly, to undertake surgical procedures without aseptic surroundings. More could be said on this subject, but I believe I have said enough to substantiate my claim in favor of the erection of a separate infirmary." I may add that in many cases relief could be given today by radical surgical methods if we had the proper surgical facilities; at present I am able to offer the benefit of such treatment only to patients whose mental condition renders them absolutely safe sub-

jects of a temporary transfer to one of our general hospitals. There are grave objections to be urged against a transfer, even in these few instances, from the undeniable fact that the stigma of being an inmate of a hospital for the insane follows the patient to the general hospital and causes the application of mechanical restraint to patients who before had no personal knowledge of even the existence of such restraint. Regarding this whole question of mechanical restraint, I will say that in hospitals commanding an ample number of carefully selected and trained attendants, such measures have to be resorted to in very exceptional cases. As our roster of employes places the ratio between attendants and patients at the inexcusably low figure of less than 1 to 20, we cannot entirely abolish mechanical restraint, but at any one time, of our seven hundred patients, hardly over a dozen call for restraint with soft appliances of the least objectional pattern, which is a fairly good showing under prevailing conditions.

Another class of patients requiring and receiving a great deal of individual attention is that afflicted with incipient alcoholic insanity of an acute onset and rapid course. No stimulants whatever, plenty of tonics and food, baths with cold affusions, vigorous exercise and a good deal of heart-to-heart talk are the agents employed here. Not having any elixir of will power at our disposal, we must be satisfied with putting our patients in as good a state of resistance as possible, and for the rest trust to their inherent power of self-control. Quite a number of men have not disappointed us, as they have been able to hold responsible positions for some years since their release. Others have suffered relapse after relapse; in these cases searching examination nearly always discloses the existence of a profound hereditary taint blighting the entire organization of the individual. Habitues to other drugs are treated in a similar manner, but usually without anticipation of lasting results. While it cannot be gainsaid that the possibility of attaining favorable results may act as an additional incentive to our labors, it must not be thought that irrecoverable cases are treated with any less attention and care. From a tabulated statement, incorporated in this report, it will be learned that we have received in the course of the last eight years: 169 epileptics, 293 imbeciles and idiots, 320 senile dements, 332 paretics, 398 secondary dements. The epileptics receive the usual medical treatment, and a few of them are put to outside work. They are rather irritable and excitable, even during their lucid intervals, and do not mix well with the other insane. As they have to be scattered in different parts of the institution, a proper regulation of their diet in accordance with scientific precepts is rendered almost impossible. The establishment of a colony, after the pattern of the Craig colony in the state of New York, would prove the only satisfactory solution of this vexed problem. The proper disposition of cases of idiocy, whether congenital or superinduced by post-natal disease, does not offer great difficulties. Scrupulously clean, hygienic and commodious quarters and unceasing attention to the physical wants are all that is required in dealing with this class of defectives. As much as my whole nature may rebel against the teachings of the advocates of "euthanasia," I am willing to concede to them the best of the argument in these cases whose mental development is registered at zero without evincing at any time of their earthly existence even a spark of conscious life. With regard to imbeciles, I expressed myself in our twenty-ninth annual report as follows, while speaking of a concrete case: "This child could doubtless be developed by methods in vogue in schools and homes for imbeciles. The absence of such in-

stitutions in our state is to be deeply deplored, as I have but recently asserted in my paper read before the Missouri State Teachers' Association at Jefferson City. You know how I have never failed to point to the incongruity of sending imbecile children to an institution for the insane. Under existing circumstances I do not see any other way of taking care of this unfortunate class. The house of refuge has never been intended for the shelter of the latter, and it should not be burdened with it." In a few select cases the sojourn at our hospital was followed by rather gratifying results. A girl of twenty, with a mentality of a child at the age of ten, was taken in hand by my wife, and made surprising progress in the acquisition of some of the more simple accomplishments; she succeeded in memorizing poems and reciting them with a fair accuracy as to form and expression; through participation in chorus drills she developed quite a musical ear; she learned to wield the crochet needle and to do housework. It fell to my share to arouse her ethical self to a proper appreciation of the property rights of others. She was finally given a good home by a brother of hers, and for these three years has been considered a pleasant and useful addition to the family. Another instance of this kind is presented by a boy of fifteen, endowed with defective mentality, lack of self-control and no love for work. His rather short stay taught him self-control; he is now temporarily employed at a box factory. Hardly a Sunday passes but that our lad visits his friends and his "playground," and many a weekly entertainment is graced by his amusing presence.

This work is mainly educational, and we are hardly prepared to do justice to it on a large scale; besides, the constant pressure caused by the influx of fresh acute cases makes the transfer of the feeble-minded, as well as other so-called incurables, to the insane department of the poor house a matter of dire necessity. It is not one of choice on my part, as I have never missed an opportunity of protesting against our present mode of disposition of the chronic insane. In my earliest report I said: "There never was a greater legislative blunder committed than the one which has taken the complete control of the great bulk of chronic cases out of the hands of the superintendent of this institution, and this in the face of the modern tendency to remove all institutions dealing with the insane from non-medical control. The existence of such institutions for the insane, whether private or public, should be made impossible by prohibitive statutory enactment. A man equipped with the essentials of scientific knowledge is the only one to be intrusted with the supervision and direction of an establishment of this kind; the physician living in the midst of his patients is the person to be invested with such powers. There are a hundred and one problems connected with the management beside those of feeding and housing the insane. This plain statement of plain facts does not carry with it any personal reflection; it is the system which is vicious and calls loudly for speedy reform." These words were penned in my capacity as medical adviser to the poor house. During the last revision of the municipal code even this last vestige of medical supervision was removed, and today nine hundred insane are entirely deprived of scientific care. I think it may be assumed as a foregone conclusion that the necessary funds for the urgently needed additions to our eleemosynary institutions will be forthcoming in the near future, and I fervently hope that at that time a rearrangement of conditions at the poor house will be inaugurated. With this in view, I have repeatedly suggested the purchase of a tract of arable land in an accessible part of the county, the erection of inexpens-

ive, sanitary cottages and the extensive employment of pauper labor to bring the farm as near to a self-supporting basis as it is possible to do. After the removal of the paupers, the institution should assume the character of an annex to the acute hospital. Additions to buildings should be made with a view of more proper classification and of establishment of industrial departments; the feeble-minded children should receive some schooling, chiefly by means of educating the brain through the hand; senile demented could be allowed to live out their lives in the approved Scotch open-door fashion; the remaining mass of afflicted beings would receive the benefit of constant psychic stimulation, and would be spared the fate of that schoolmaster whose three years' sojourn in a Wisconsin county asylum had transformed him from a bright, intelligent companion to an automatic dullard, and this to the surprise and chagrin of the warden. Absence of mental food must invariably lead to mental scurvy and starvation, and we have no more right to starve the brain than the stomach. The problems involved in the care of our defective, indigent and sick fellowmen are not all arithmetic and ledger—to their adequate solution are required generous draughts on human kindness and unselfishness. If this is twaddle, then let us have all the twaddle we can lay our hands on!

Among the irrecoverable cases none require as much attention and actual care as those of general paresis. This is a progressive, organic brain disease, running usually its fateful cycle in from three to four years. During the phases of excitement the treatment accorded these patients is very similar to the one described above for that of mania or melancholia. Temporary improvement almost always takes place, thus interrupting the course of the malady by more or less prolonged periods of partial clearings—by so-called remissions. During such periods the patients' friends will not rarely doubt the insight of the physician-in-charge, and remove the patient from the hospital only to return him in due course of time. It cannot be disputed that this dreaded malady counts among its victims an ever-increasing number of dwellers of our large cities. The prevalence of paresis in our own hospital is best illustrated by the following figures, showing admissions for every one of the last eight years:

In 1895-96: men, 16; women, 1; in 1896-97: men, 23; women, 3; in 1897-98: men 27; women, 7; in 1898-99: men, 32; women, 2; in 1899-00: men, 26; women, 2; in 1900-01: men, 43; women, 9; in 1901-02: men, 48; women, 20; in 1902-03: men, 58; women, 15. Total—men, 273; women, 59.

In a total of 3,044 admissions we found 332 paretics—*i. e.*, nearly eleven per cent.

The foregoing sketch of our methods will, I hope, convince the kindly disposed critic of the arduousness of the task put before us, and of the unquestioned honesty of our efforts. It must be admitted that results are not always as favorable as we might wish, which is hardly surprising when we consider that the brain, with its exquisitely delicate fabric, will naturally yield less readily to measures taken with a view to restitution of its normal functions than any other organ of the human body. The rate of recovery is not found to be very great in any hospital, nor any part of the world. Here I may mention as a piece of unwarranted pessimism, the oft-made assertion that no patient after a readmission should ever figure on our records as recovered. This attitude is justifiable only towards the cases of periodic or circular insanities, in which the regularity of the recurring attacks is in itself a striking characteristic feature of the respective dis-

ease. In other types of insanity each attack stands for itself just as each attack of pneumonia is treated as an independent entity. If the hospital treatment helps a patient to such an extent as to enable him to fill his place in society creditably and successfully, it is certainly entitled to claim this result as a recovery. Statistical data are also misleading, because the fact is lost sight of that a great majority of the patients are afflicted with irrecoverable forms of insanity at the time of their admission. As this is rather an important point, I shall interpose here a tabulated statement, showing the movement of our population during the last eight years, and follow this up with numerical analysis of the different types of insanity for the purpose of establishing a nearly just basis for the calculation of the rate of recovery.

	1895-6	1896-7	1897-8	1898-9	1899-0	1900-1	1901-2	1902-3	Total
Number at beginning of year...	378	400	481	524	583	601	669	666	....
New admissions (less readmissions)	234	284	373	384	412	436	441	480	3044
Total number treated	612	684	854	908	995	1037	1110	1146	7346
Discharges, recovered and improved	35	91	96	98	119	104	101	102	746
Discharges, unimproved	92	15	49	63	70	90	107	86	572
Transferred to poor house	60	46	143	113	169	90	143	163	927
Deaths	33	55	54	70	55	97	112	128	604
Remaining at end of the year	400	481	524	583	601	669	666	686	...
Daily average	380	446	516	554	631	660	677	681	568

The low number of 378 patients at the very beginning of my administration in 1895, is to be explained by the fact that several hundred patients had been transferred to the poor house in the previous year. The most striking feature of this table is the one pertaining to new admissions, which have grown from 234 in 1895-96 to 480 in 1902-03, the total number treated having increased from 612 to 1,146, and the daily average from 380 to 681. Parenthetically, I may say that with all this stupendous increase, not a cubic inch has been added to our accommodations.

Of the 3,044 new admissions were: Not insane, 13; unascertained on account of too short a stay, 96.

Irrecoverable.—General paresis, 332; senile dementia, 320; secondary de-

mentia and dementia præcox, 398; imbecility and idiocy, 293; epilepsy, 169; other psychoses, 168. Total, 1,680.

Doubtful.—Alcoholismus chronicus, 173; morphinismus, 25; saturnismus, 2; neurasthenic insanity, 41; hypochondriacal insanity, 12; hysterical insanity, 4; lues cerebialis, 36. Total, 293.

Recoverable.—Mania, 354; melancholia, 374; stupor, 72; acute hallucinatory delirium, 30; alcoholismus acutus, 103; cerebraesthesia, 26; septic delirium, 1; nicotinismus, 2. Total, 962.

If we add to the 962 newly admitted cases, 119 found at the beginning of 1895-96, we face a total of 1,081 recoverable cases out of a total of 3,422. As the above table gives the discharges of recovered and improved patients as 746, the rate of recovery appears for the entire number as 21.8 per cent., and for the recoverable cases as 69 per cent., which must be considered a fairly good showing for a modestly equipped public hospital.

Of deaths we had 604. Causes are given as follows: Paresis, 233; other brain diseases, 130; senility, 96; pulmonary tuberculosis, 65; other infectious diseases, 12; suicide, 3; accident, 3; various organic diseases, 62.

The death rate computed for the total of 3422 cases is 17.65 per cent., of which 10.61 per cent. are attributable to paresis and other brain diseases. During this entire period we had but two deaths from typhoid, two from erysipelas and one from diphtheria. We have been singularly free from epidemics, which points to good sanitary conditions. Every patient who did not show a good scar was subjected to vaccination.

If the careful perusal of the foregoing review will succeed in convincing our employer, *i. e.*, our home-city, that an honest effort has been made to redeem the pledge for the introduction of hospital methods, its compilation has been worth the trouble. The actual results of eight years of labor may fall short of being brilliant, but brilliant successes do not fall to the share of toilers in this field the world over. The nature of the work is of necessity both scientific and philanthropic. With us the scientific part is confined to the practical application of principles and truths evolved in the study and laboratory of men who spend their days in original research. I have never failed to point to our utter inability to add even a single jot to the science of psychiatry, not having at our disposal either financial means or a trained corps of scientists. Our task consists in attempts at restoration of the afflicted human mind to its normal function whenever feasible, and in efforts to stay further deterioration when a return to pristine integrity is made impossible. I should be utterly deficient in all sense of appreciation did I not express my gratitude for the marked growth of confidence in our institution on the part of my professional colleagues and other fellow-citizens. While it has not acted consciously as an incentive to our labors, this growing confidence must eventually arouse sympathetic public opinion upon which public wards are dependent for their well-being. Relatives and friends of the afflicted have been progressively losing the fear of the "Mad-house," and this has insured an earlier confinement with its promise of better results or avoidance of dangerous social complications.

Some observations regarding the attitude of our patients toward the work done in their behalf, may legitimately find mention here. Being as a rule entirely devoid of all insight into their own condition, most of them are unwilling victims of the confinement and strenuous objectors to any line of treatment

instituted. In spite of this fact among the large mass of teeming humanity possibly a dozen may be found at any one time manifesting deep-rooted hostility toward their environment which is held responsible for their delusional grievances and persecutions. The others meet us on all occasions with outspoken expressions, by word and action, of friendship and kindness. Voluntary applications for commitments by new-comers and for recommitments by patients on the verge of a relapse, have been increasing at a gratifying rate from year to year. It is a common experience with us to see the latter's friendly attitude changed to hostility after the full development of the malady. A middle-aged man wrote after his release and before his departure to another city: "Permit me to express to you and your colleagues my heartfelt thanks for the assistance you extended to me in the dark hours of my severe sickness. I shall write you more when I am stronger and in the best of moods" and in a post-script: "I now realize the seriousness of my case to the full extent." Some time ago I have learned that this man has returned to this city and to his former overindulgence in stimulants; and that he spends his time now, in spreading blood-curdling reports about this institution and its methods. An improved or recovered patient never leaves without a cordial handshake and words of appreciation, and this without distinction as to age, race, color or sex. Others have earnestly promised to increase our clientele by persuading some of their "nervous" friends to come here for a rest up. Only recently we had two cases in which release was impractical because the patients flatly refused to leave, making dire threats of "playing crazy" in case of forced release; in either instance the allurements of our flesh-pots had no weight, as good homes were offered to both recalcitrants. Letters have reached us from abroad and other cities of this country, indited by patients after return to their respective homes, and each one expressive of genuine appreciation; one young girl writes from beautiful Switzerland of her "home sickness" for this place that appears to hold so many horrors to the uninitiated. To render this one undeniably pleasing phase of our life more vivid I shall cite passages from a few letters selected at random. One woman, since released, writes to her relatives: "Do not be uneasy about me as I feel if there is any possible way for me to get well, it is out here where there is quiet and complete rest, fresh air and beautiful sunshine, best of medical care and the kindest home attention from the nurses." A young girl, after relating her experiences at her home where she died eventually of gastric ulcer, says: "Not having much late news or news of much interest to tell them here at home, I have explained to them the kind words and the amusements done merely for our own pleasure, which have been tendered us by you and all the rest of the doctors and attendants, which have made me feel a great deal more at home with you all than it would have been otherwise." This was a case of simple hysteria and of self-commitment. As a last sample I will quote from the letter written by an intelligent, well-bred man who has entered a career of usefulness. After a lengthy prelude, dealing with personal matters, he says: "The asylum was more like a home than anything else to me, and I always felt when there as if I was simply one of a big family—everybody there treated me most kindly and the friends made there are not by any means the least loved by me. My sojourn will always be most pleasantly remembered and marks an epoch in my life, as it was from there I went forth a sound, healthy man, fit to do my share in life's struggle."

Such testimonials emanating from within the walls of the "House of Sorrows" must be a surprise to many, and are here given for the purpose of enlightenment. We do not claim more than to have done our duty, but it is most gratifying to have our efforts appreciated by those who are surrendered into our hands unconditionally for better or for worse. It would be an egregious error to assume that the higher standard reached by our hospital has been the result of one man's labors. Unless he had in his possession the magician's wand he could not cope with the intricacies of the problem single-handed. The successful execution of his plans and methods must fall, as a matter of course, to the share of properly selected and qualified employes, representing all branches of service. The engineer, carpenter, painter, gardener, yardman, cook, the house-keeper, seamstress, laundress, house-girl—all these come in close contact with our working patients, and can do or undo a good part of our work directed toward the improvement of the latter's condition. Some training and a good deal of tact are required for proper dealing with our peculiar human material. It stands to reason that a woman or man having received some training as attendant under direct medical supervision and instruction must be considered best fitted for the work in the different departments of the hospital, all of which give constant employment to quite a number of patients, and it must also be conceded that with prolonged service and growing experience their value for the work in hand must necessarily increase. If this is true of other employes, how much more true is it of those who are charged with carrying out all the details of the medical treatment of our patients. The question of proper qualifications of attendants is in importance secondary to none in the management of a hospital for the insane. I have expressed myself so exhaustively on this subject in the past that I cannot do better than quote almost verbatim my utterances incorporated in our twenty-seventh (*i. e.*, my first) annual report for the fiscal year ending March 31, 1896:

"As much as I might try to bring myself in direct relation with the patient, I must, necessarily, look to others for carrying out the treatment in all its ramifications. These others are pre-eminently my attendants. They live among the insane as their daily—nay, hourly companions. Without efficient attendants my efforts would prove distressingly barren of results; I should be guilty of uttering beautiful words of promise without the slightest hope of ever redeeming my promises. The almost kaleidoscopic variety of measures to be thought of in the treatment of insane patients, presupposes peculiar qualities in those who are called upon to put the measures into execution. I do not intend to depict the beau ideal of an attendant as he or she might descend to us from the spheres of perfection, for I am at all times willing to make allowances for things of the earth earthy, still there is a certain standard to be upheld, below which no man or woman should be regarded eligible to such a position of trust. Attendants should be young or middle-aged, of robust health, good physique, even disposition, fair education. They should be inherently possessed of the love of their work, and some of them have special endowments in the musical line, and before everything else, they should have some experience in the duties required of them. An attendant must perform many of the duties of the trained nurse, as taking and recording blood temperature, administering medicines and enemata, etc., etc., all this tending to show the necessity of establishing training schools for attendants with a full curriculum. To me the urgent

necessity of such a step is so perfectly self-evident that I cannot appreciate the difficulties placed in the way of its realization. The need of trained nurses in a well-equipped hospital for the physically sick is to-day conceded by all who have any acquaintance at all with the requirements of such an institution. That a hospital for the mentally alienated would presuppose in its corps of attendants special training, seems not to appeal to the same people with equal force. Some day they may have the misfortune to have a member of their own family become mentally afflicted, and to face the necessity for placing him or her in the hospital. Would they not tremble at the thought of leaving their dear ones in charge of untried, perhaps brutal, novices? A short stay among the insane, the temporary assumption of the duties of a superintendent of such a hospital would unquestionably act as an educational factor of the most convincing nature. To all the other worries of the latter position is superadded one that overshadows all the rest, and that is the possible abuse of the insane at the hands of their attendants. It is a publicly well-understood fact that there are no other institutions in which abuses can be practiced with greater impunity than at a hospital or asylum for the insane. The prisoner in jail or penitentiary may expect retribution to follow mistreatment of himself because his evidence, if corroborated, will be considered valid, while the insane does not inspire the same confidence, and often justly so. The great importance of the question of abuse is best illustrated by the avidity with which the public press, and in its wake, public opinion, catch fire at the slightest hint, or even a statement of a discharged, hence disgruntled employe. The question is a vital one, and has occupied many minds, and I do not need to assure you that I have given a great deal of thought to it and shall continue to do so, especially as the constant fluctuation in our force of attendants keeps adding new fuel to my thoughts."

I need hardly add that through all these years this problem has never lost its significance for me, while the harrowing fears of any sort of abuse have vanished long ago. Some of our most trustworthy attendants are to be found today among those who came to me as a heritage, and showed intelligent and approving acquiescence in new methods altered in keeping with modern conceptions and ideas. On the whole our hospital may honestly claim today the possession of a fairly satisfactory corps of attendants: a further step toward more radical improvement can be taken only when the establishment of the long-cherished training school will be allowed to emerge from the phase of an iridescent dream into that of hard and fast reality.

Before entering upon the review of the administrative part of our work for the last eight years I will inject here some few data referring to our last fiscal year, which has been rather uneventful. The number of patients at the beginning of the year was 666, 390 men and 276 women; newly admitted were 480, 292 men and 188 women; the total number treated was 1146, and the daily average 681.

Discharged as recovered and improved were 102, 58 men and 44 women; as unimproved 84, 55 men and 29 women. Under this caption nothing calls for particular attention, except the removal of an alcoholic in the face of my most vigorous protest; he gave way to temptation soon after his release, and is now back with us under the charge of murder. This patient had recovered from the acute effects of the drug, but should have prolonged his stay at the hospital with the hope of gaining in power of resistance, but under the present entirely med-

ical form of commitment and confinement of insane patients, an absolute refusal to demands for release is hardly safe. It is rather remarkable, but none the less true, that even at this late date lawyers can be found in our own city, who are willing to impugn the motives of this management in keeping an individual confined—a management that would stake its life for the welfare of its charges. The municipality does not assume any responsibility for our acts that are performed in strict accordance with the provisions of our official oath. A few radical changes in our laws would make annoying damage-suits less likely to occur. Our charter authorizes the municipality to “confine” insane persons, leaving the *modus operandi* to be determined by the municipale code. A simple provision in the latter could make it incumbent on the officials concerned today in the commitment of the insane, to certify each and every case to one of our courts in session, who in turn would dispose of the case in perfect harmony with legal requirements—a procedure followed now in our county courts. Among the discharged patients twenty-two were non-residents who were sent to their respective homes after sufficient improvement to enter on a journey with any degree of safety. Their destinations were as follows: Missouri, 6; Illinois, 5; Texas, 2; Tennessee, 3; Nebraska, 1; Wisconsin, 1; Mississippi, 1; California, 1; New York, 1; Switzerland, 1.

As not insane was discharged an old, eccentric umbrella-mender who managed to get and give a good deal of fun while here, and was sent about his business with the fatherly injunction to mend umbrellas and his ways. We had one elopement to our discredit, but I still hold to my original attitude with regard to these incidents; while elopements should be avoided they cannot be rendered impossible, for even jails and work-houses with their strong fortifications, clubs and guns, are not able to hold all of their inmates all the time. Unless manifesting signs of inexcusable laxity, such incidents at a hospital should hardly deserve harsh criticism, as it may frighten a timid management into readoption of mediæval walls and restrictive measures, which, as one sin begets the others, are invariably followed by an absolute increase in the number of attempted and successful escapes. In spite of all possible vigilance it will happen that a patient placed into the superintendent's personal custody by an order of the criminal court, will make good his escape through application of superior cunning and strength. Such occurrence is always to be deplored, but it cannot be expected to affect the general policy in vogue in dealing with the insane. Our enlightened courts recognize the indisputable fact that prison methods could never lead to the recovery of the afflicted, and would make their instructions issued to the superintendent “to hold the prisoner *until cured*” a piece of hollow mockery.

In the course of the year 163 patients, 77 men and 86 women, went to swell the population of the insane department of the poor house. Of deaths we had 129, 85 men and 44 women; the prevailing causes were paresis, 47; phthisis pulmonalis, 26; senility, 26; status epilepticus, 6. One aged negress sustained in a fall a hip-fracture, and died of shock. Barring this case, the year has been agreeably free of accidents. It is true that one of our base-ball devotees sustained a Pott's fracture while “stealing a base,” but this accident would receive only passing notice by our institution-chronicler, for no sooner had nature and art succeeded in rehabilitating the injured limb than our man was discovered in his favorite occupation of stealing bases. Such unabashed enthusiasm can only

be appreciated by insiders who have watched the gradual evolution of our "asylum nine" from embryonic beginnings to its present importance. Saturday afternoons organized teams from all over the city are arrayed in battle with our home team, and the pennant is but rarely permitted to leave our grounds. This short chapter must suffice for last year's history; it offered the usual allotment of sorrow and gladness, of work and pleasure, and we see it join its fellows of the past with a feeling of satisfaction and no regret.

As devoid as the last fiscal year appeared of striking incidents, it certainly carried off the palm in our administrative department by putting us in possession of ideal fire escapes and an electric plant that must prove its ideality in the near future. Before this, the two wings of the main building were provided with inclosed iron stairways lined with fireproof walls. In case of a fire in the basement these stairways would prove impassable in a very short time through the volumes of smoke that would refuse to escape by way of the small window openings. Experienced fire-fighters assert that at every fire with fatalities, victims of suffocation predominate over those of incineration. Our two new circular fire escapes are placed in the rear of the building and connect with the attendants' rooms on either side by means of a securely screened and covered bridge. The absence of stairways, with ever-present dangers of panicky crush, and their substitution by gently unwinding spirals that do not permit any individual choice to whoever is in their grasp, have added immeasurably to our feeling of security in case of an emergency. While I cannot assert that our patients expressed actual delight at their trial trips down the circular escapes, no serious objections were raised. What with the radical change of our cold water supply system, and removal of standpipes and hose-racks from inaccessible clothes-rooms, covering of all heat-irradiating surfaces with a view of economy and fire protection, erection of fire-plugs connected with eight-inch city mains in close proximity to the buildings, the prospective introduction of a fire-proof metallic dry-room, in the laundry, the employment of two stationary professional firemen for constant inspection of the premises and fire apparatus, including two large hose-reels for first aid, the risks from fire have been greatly minimized. The fact that the inspector of the bureau of fire prevention at his last visit found everything in good shape except for some accumulated lint in the dry-room, speaks fairly well for the system inaugurated. I have since instructed the firemen to supervise, personally, the daily cleaning of the laundry.

The installation of our electric plant ranks next in importance in the line of permanent improvements. In a letter dated July 13, 1896, and addressed to the health commissioner, I said: "The contracts for city lighting expire in 1900, and I believe that this is a good opportunity for urging the erection of an electric plant on the asylum grounds which would supply the three institutions, representing in the aggregate a population of about 2,100 heads, that is a population of a good-sized township, with the necessary lighting." Here follow statements as to comparative cost and estimates for the original investment and current expenses, and as to advantages of ownership of the plant. This communication appears *in toto* in our twenty-eighth annual report, and the only additional comment made is as follows: "This scheme is perfectly feasible and should be acted upon at once as the plant should be ready for operation on the first of January, 1900." These suggestions died "a-borning," and January 1, 1900, will go down in the history of our public institutions as their Black Friday.

Events, fresh in every one's memory, and since deservedly pilloried, led to a reign of almost absolute darkness through supplanting the modern electric bulb by the candlestick of our forebears. I am free to admit that this course was not tolerated at this institution; the management flatly refused to shoulder the responsibility of exposing hundreds of more or less helpless unfortunates to the dangers of a terrible conflagration lurking behind every candle placed in the overflowing wards. Private resources were called upon to defray the expense of five weeks' lighting, and long before the expiration of this memorable interregnum, unknown benefactors had made the use of candles unnecessary at our sister institutions. At this critical time another circular letter was set adrift pleading for the establishment of our plant. The heaven began to work slowly and gradually, and today we are on the eve of the opening of the institution plant. I only hope that our newly installed boilers will furnish sufficient power during the winter months for pumping, heating and lighting. Should a marked deficiency make itself felt, we shall find it necessary to revert to the plan originally suggested by me, in pursuance of which additional boiler room could be secured on the plat of ground east of our monumental smokestack. The possession of the plant as a matter of course suggests the eventual introduction of electro motors and electric irons in the laundry; the employment of the latter would relegate the present laundry stove, that bug-bear of the underwriter, to the oblivion of the junk pile. In keeping with these changes we must enlarge our machine shops and coal sheds, and insist on the contractor putting in a plentiful supply of storage coal. A telephone will have to be placed in the shops for the engineer's use, and a portable voltmeter purchased for testing the voltage in any part of the building. Two dynamo tenders and coal passers as well as an electrician, must be added to our regular force.

When we mention the erection of a new kitchen as airy as its location will permit, of refrigerators, one of which is for the milk supply, of a roomy glass porch for the cottages, of green-houses, of an open-air pavilion, we have probably enumerated all improvements easy of ocular demonstration. But the taxpayers' money has not been idle in other directions: extensive plastering, inside and outdoor painting, new flooring, thorough overhauling of roofs, ceilings, windows and doors, considerable plumbing and steam-fitting, and many other minor repairs and alterations, have unquestionably tended to bring the property to a state of good physical condition. After my recommendations for the repair of the front steps and the dome stairway will have been acted upon, there will not be found in the entire building a single nook showing decay or neglect. For every dollar expended full return has been made in demonstrable improvements. It is not quite so easy to give within the scope of such report a satisfactory accounting of the running expenses of this hospital: here we must rely upon lifeless figures, and chiefly on a statement of the per capita cost of maintenance. In the following table I include in computing the rate of maintenance all expenses for each year except those incurred for special repairs and improvements—this is done in accordance with the usage prevailing at all institutions of this character, and for just comparison with the latter:

	Daily Average of Patients.	Gross Cost Per Capita.	
		Annual.	Weekly.
For 1895-6.....	380	\$204.83	\$3.94
For 1896-7.....	446	190.56	3.66
For 1897-8.....	516	177.00	3.40
For 1898-9.....	554	162.63	3.13
For 1899-0.....	631	173.07	3.33
For 1900-1.....	660	160.31	3.09
For 1901-2.....	676	166.13	3.19
For 1902-3.....	681	168.88	3.24

The low daily average will fully explain the higher cost in the first few years. Let us take as an example the two extremes, with an increase of 301 in the daily average of patients in the last year: while the requirements for actual sustenance have almost doubled, the administrative expenses have changed but slightly, and entirely out of proportion with the increase of number of patients. Thus we find the salaries of 1903 increased only by \$2,400 over 1896, and the two repair funds represented by approximately the same figure. If we take the financial statements incorporated in our last eight annual reports, and compare them item for item, certain fluctuations can be noticed, which in my opinion lend themselves readily to explanation. The slight increase in the consumption of bread is to be accounted for by weekly additions of bread-pudding to the patient's diet. The daily quantity of meat, either beef or mutton, after deduction of all waste in the dressing is computed at eight ounces for the individual, surely not too large an amount, considering the usual absence of other nitrogenous food. The consumption of provisions classified as groceries has kept pace with the growth of our population. The amounts expended for vegetables appear to vary in keeping with the yields of our own garden; for example, during the fiscal year 1901-02, with its well-remembered drouth and killing heat, we were almost exclusively dependent on outside sources for our vegetable supply. Some fresh winter vegetables have also been added to the patients' regular diet. The expenditures for milk vary greatly in the different years, having been reduced considerably within the last three years on account of the reintroduction of the tea and coffee in the diet list, called for partly by reasons of enforced economy, partly by constant murmurings of our boarders. As highly as I value milk as an article of hospital diet, I most strenuously object to the erection of a municipal dairy without ample provision for pasturing, as feeding silage to cattle the year round is every whit as objectionable as feeding to them brewery slops. The quantity of ice used stands in direct proportion to the length and intensity of the warm season. A full supply of this article in our refrigerators has made an occasional rejection of tainted food a story of the remote past, and an unbroken offer of a cooling drink in the shape of ice-water has passed the stage of luxury in this valley of tropical summers. In our inquiries into the differences of expenditures we must not overlook the wide fluctuations of prices even in staples, and the varying care bestowed at different periods on the process of buying. Something may be said in behalf of possibilities of considerable saving in the hands of an economic culinary department. I should be guilty of an exaggeration, at least, if I asserted that all of our cooks were past masters in the art of

economy. While we have had and have now good cooks, with sufficient practical experience for the work in hand, none of them possesses the requisite knowledge to carry out the precepts of scientific cooking. As I never attempt the impossible nor pretend to do what lies beyond my ken, I do not claim to be able to apportion to our patients their foodstuff in strict accordance with physiologico-chemical science. But the interested observer would soon learn that the food offered our denizens embodies, in quality and quantity, all life sustaining essentials, and a still closer inspection would lead to the conviction that the diet list encourages neither starvation nor gluttony. Unfortunately, a certain sameness is unavoidable in providing for such a large mass of inmates, but how about our own table or that of the average boarding-house? To provide properly for the manifold needs of the institution in all of its branches the incoming supplies received unceasing and careful attention at this end, being minutely scrutinized as to quantity and quality. This part of our administrative work would have proved to me a constant source of apprehension and anxiety had I not had at my side Mr. R. E. Lee Gibson, whom I received as a heritage from two preceding administrations, and who has honestly, efficiently and faithfully discharged the manifold duties of a chief clerk and steward. May he long continue in the service for the benefit of this department and the tax-paying citizen!

In conclusion of this chapter I will adduce a few data culled from the last annual report of a large hospital for the insane located in the State of New York, where the financial affairs of all the hospitals are under the absolute control of a central body—*i. e.*, the State Commission in Lunacy:

Total acreage of grounds and buildings, 1060 (our, 29); acreage under cultivation, 565 (our, 15); daily average of patients, 1382 (our, 681); annual cost per capita, \$175.06 (our, \$168.88); weekly cost per capita, \$3.32 (our, \$3.24); proportion of attendants to patients, 1 to 9.5 (our, 1 to 20); revenue from pay patients, \$2,852.97 (our, \$7,528.08).

Its farm is stocked with: 29 horses, 119 cows, 49 heifers, 29 sheep, 117 pigs, 394 fowls, 493 chickens, 126 ducks, etc. (Ours, none of these except six condemned horses.) Considering the utter lack of advantages and facilities expressed or implied in these New York data, at our home institution the latter sins manifestly more on the side of economy than extravagance. I may say a few words regarding our pay patients. It must not be understood that this class of patients receives special accommodations and treatment, for our hospital is not prepared to furnish either. With us a pay patient is simply one whose estate or relatives are able to defray either entirely or partially the expense incurred by the municipality for his maintenance. I have repeatedly scanned the roster of our patients with a view to inquiring into the financial status of their respective relatives. It so happened in a number of instances that cases under suspicion turned out to be such as had passed the scrutiny of the Board of Health, showing sworn affidavits as to utter financial disability. At times appearances of the relatives will move me to direct questioning, most frequently with the result of establishing the existence of a large dependent family and usually a marked addition to the expense account due to the withdrawal of the wage-earner or the necessity of substituting paid help for an incapacitated mother. I have suggested in the past having doubtful cases submitted for investigation to the City-Collector's office, which is best prepared to pass judgment on the extent of financial ability or disability of a citizen who applies to the municipality for aid.

In the following I submit my financial recommendations for the ensuing fiscal year, of which every item is the outcome of most careful deliberation :

GENERAL APPROPRIATIONS.

For salaries	\$36,000.00
For groceries	60,000.00
For drugs	1,500.00
For dry goods.....	10,300.00
For forage.....	2,500.00
For labor material.....	1,000.00
For labor repairs.....	2,000.00
For entertainments.....	600.00
For traveling expenses, attending conventions.....	150.00
Total.....	\$114,050.00

SPECIAL APPROPRIATIONS.

For one new hot-water heater of large capacity and boilers; one complete new hot-water circulating system for the entire building; new additions to coal sheds, including new blacksmith shop and electrical repair shop; dynamo and engine supplies for the year; new steam and return pipes to radiators to male and female bath-rooms; new steam and return pipes and radiators in rear building; one new metallic laundry dry-room; repairs to old laundry wringer and washing machines; five new laundry clothes trucks; the laundry to have new set-in washing-tubs; connecting the two west cisterns with city water supply and putting in six-inch suction pipe to tank pumps in engine-room; two new kitchen ranges; repairs to laundry engine; new iron beam supports and area way around kitchen and engine-room to be repaired; plastering throughout main building, basement, laundry, kitchen, engine-room and tunnel; repair roof, valleys and down-spouting on rear building, stable, storehouse and cottages, new fence around stable; woodwork and screening to be renewed on food elevators; new stairway up to dome; cottages, gravel roof on decks to be renewed; new greenhouse; whitewash engine-room, boiler-room and carpenter-shop; new wire window screens for eighth, ninth and fourth halls; new wire pipe guard screens for eighth hall; put front stone steps in first-class condition; shingle roof on paint-shop, gardener's house and carpenter's house; screens, new floors and new stalls in stable; one hundred new iron bedsteads; trees and shrubs; painting all wood-work on dome and cornices, roof, window openings and iron bars:

For all of the above\$15,965.00

Before the final closing I may be permitted to acknowledge my appreciation of the services rendered to this department by our assistant superintendant, Dr. Theodore Greiner, who has expressed his intention of entering in the near future upon the practice of his profession. The four years of his collaboration with me have been marked by conscientious, highly intelligent service and by pleasant relations with me. Our best wishes will follow him in his new field of labor.

Seven years have passed since I closed my annual report in a manner considered utterly at variance with common usage. Upon safe arrival at another mile-stone I would be delinquent in discharging a simple duty if I did not again and publicly express to my wife on the part of this department and myself words of heart-felt appreciation for her efforts volunteered in the service of pure humanity, for which she reaps daily reward in the love and gratitude of the beneficiaries of such efforts.

ASTEREOGNOSIS IN A CASE OF TABES.

BY FRANK R. FRY, A. M., M. D., of St. Louis, Missouri.

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The following is an interesting instance of tabes in which the degeneration process had so selected or differentiated the systems of sensory fibers that the temperature sense and pain sense were preserved, practically, throughout the body, while other kinds of sensibility, *i. e.*, tactile, pressure, muscular, localizing, spacing and posture sensibility were co-extensively defective, being in some instances entirely and in others partially lost. Hence in all the members of this patient's body there was an astereognosis, or a loss of the complex sensibility, by which the shape and size and solid properties of impinging objects are determined.

I shall first present the evidence of astereognosis in the case, and then briefly sketch the other features, establishing the diagnosis of locomotor ataxia. When his eyes were closed and various objects, for example, a key, a silver dollar, a peach, etc., were placed in his hand he was not aware of their presence unless they happened to be so cool or so warm that he could detect a temperature change. When told that there was some object in his hand, his manipulation of it in attempting to discover its properties was so excessively awkward and labored as to show that he had no sense of its size and shape. His hands were about equally involved in this defect, and he was allowed to use them together in these blindfolded investigations. Their movements were so hesitating and inco-ordinate as to be quite grotesque, the objects frequently slipping from his grasp and falling to the floor. Some incidents of the examination will help to further convey an idea of the sensory condition. He manipulated for quite a while a hair brush, becoming very much interested in it. The bristles, being stiff, occasionally pricked him beneath the finger-nails, but he could not discover what it was.

As we were preparing for the second examination he remarked that his wife had informed him that during our first examination, some two weeks previously, he had let a silver dollar escape from his grasp; and he went on further to say, jokingly, that it was not his nature to let that kind of chances slip, and that he would not be accountable for any more dollars placed in his palms. I think he had an idea that he would be able to detect the dollar piece on another trial. He failed to do so, however, although I gave him every opportunity excepting the aid of vision and hearing to discover it.

A peach was placed in his hand. He was not conscious of its presence there. When told to close his hand upon it he did so quite forcibly, which resulted in a rupture of the peach, causing some one present to exclaim suddenly. He relaxed his grasp quickly, anxiously inquiring, "Was it a watch?" fearing he had injured some valuable article.

As to the diagnosis of tabes there was no question. When I first examined him he saw with his left eye at ordinary distances all the articles used in our tests. At our second visit, two weeks later, vision had failed so rapidly that it was hardly necessary to cover the eyes. The ophthalmoscopic diagnosis was optic atrophy. Within a few weeks he was totally blind.

On my first visit I found the pupils sluggish, but reacting to both light and

accommodation. Station was very poor (*i. e.*, a pronounced Rombergism was present). The knee-jerks, and the wrist-jerks as well, were absent. The plantar reflex was very lively on both sides. Locomotion was characteristically tabetic. The inco-ordination of the upper extremities was not so pronounced as that of the lower, but was very great. Putting on his shoes, buttoning his clothing, etc., was so difficult that some one performed these offices for him.

Tactile sense was poor everywhere, *e. g.*, he could not recognize two points, dull or sharp, one-half inch apart, on any of his finger-tips. The localizing sense was equally defective in all his members. The pressure sense was so poor in the hands and arms that the pressure had to be quite firm and sustained to enable him to detect differences. On the middle of his back heavy pressure was not recognized as he lay face down in bed. On the muscles of his thighs it was possible to make deep indentation with the handle of the percussion hammer before he became aware of any pressure.

The pain and temperature sense were both acute over all portions of the trunk and extremities, in some places apparently hyperacute.

The development of the symptoms had been very rapid. Our first examination was made August 27, 1902. Just eight months prior to that time he noticed a slight paresthesia on the antero-external surface of the right thigh, which he attributed to horse-back riding in the cold. This was quite transient at first, but finally invaded the other thigh and became constant in both of them. It was never intense; never actually painful. Later he noticed the same paresthesia on the right side of the trunk, and this finally grew into a girdle or "sinch" feeling. Within the last two months (at the time of our examination) all of these paresthesiæ had departed save in an area 6 by 8 inches on the right side of the abdomen. This area was hypersensitive to pain and temperature. He had had no actual tabetic pains nor crises of any kind.

There seemed to be no paralytic feature in his locomotion; once started he could walk a great distance without fatigue. The bladder was somewhat slow but had never leaked; concerning this he was very positive. His grip was powerful, although it was difficult for him to co-ordinate well enough to show its full force.

There were no cerebral symptoms. He has never had any headache, nor vertigo, nor tinnitus. Excepting the optics there was no suspicion of disturbances of any of the cranial nerves (not even the fifth). Mentally he was perfectly alert and as good as he ever was, according to his and his wife's statements. To us he certainly seemed to be a man of unusual "nerve." He was thirty-six years of age; a captain in the regular army. There was a history of lues, contracted only four years previously. He had not received much antisyphilitic treatment.

The question might pertinently be raised in this remarkable case whether the patient had tabes or an extensive syphilitic spinal meningitis. The presence of the marked dissociate sensory symptoms, *i. e.*, the complete preservation of certain sensory tracts with the total destruction of others, answer it in favor of tabes, or a degeneration of a selective or system kind beginning within the cord.

These notes were largely prepared a year ago with the purpose of publishing them, but neglected until now. Since then several cases of astereognosis in tabetic cases have been reported. The writer has seen several instances during this time in which in tabetics to a less degree than in the case here reported the

phenomenon was present; and very recently a case, observed also by Dr. H. Hermann, of this city, where it was present in the right hand of the patient. This was a case which began as spastic paraplegia and afterwards developed ascending sensory symptoms evidently due to ascending degenerations of the posterior columns, the final picture being that of the "Erb type" of lateral sclerosis.

For the opportunity of observing this case I am under obligations to Dr. Samuel A. Peake, who studied it with me.

OCULAR EXAMINATION AS AN AID TO THE EARLY DIAGNOSIS OF MULTIPLE SCLEROSIS, WITH REPORT OF A CASE.

BY JOHN GREEN, JR., M. D., and SIDNEY I. SCHWAB, M. D., of St. Louis, Mo.

In the diagnosis of nervous diseases of a complex nature there is a constantly growing tendency toward the more careful study of initial symptoms. This tendency does not concern itself so much with the mere enumeration or grouping of them as it does with the attempt to correlate a few definite symptoms which may be widely different in clinical characteristics and in anatomical localization.

It was formerly thought sufficient to group a number of classic symptoms together in order that a clinical entity should be constituted. This formed, so to speak, an ideal clinical picture, to which a certain given disease must conform in order to be diagnosed as such. If a majority of these signs were present, the disease could be included as coming under this or that category; if less than a majority, the case was to be regarded as suspicious; and if only one or two were found, the diagnosis was in doubt. In this way has come about a method of diagnosis very much in vogue in certain text-books; it might be called the "Text-Book Method of Diagnosis" with its grouping of symptoms according to number and with its arbitrary dividing line between what is definite and what is undetermined. With the increase of our knowledge has come a curious condition, which bids fair to lead to considerable confusion unless our conception of disease grows broader with its increase in knowledge of the underlying causes of disease. An illustration of this condition can be seen in the numerous cases without the presence of classical symptoms which are published. In some instances the symptom which has given to the disease its name is no longer thought to be necessary for the diagnosis of the disease; for example, exophthalmic goitre without the exophthalmus or the goitre, Parkinson's disease without the tremor, locomotor ataxia without the ataxia, etc. In no disease of the nervous system perhaps is this tendency more in evidence than that of multiple sclerosis, called by Charcot "*L'Affection Polymorphe Par Excellence*." The intention tremor, nystagmus, scanning speech, which are in many minds typical of this disease and only of this, and which mean practically this disease, are not at present regarded by neurologists as essential for the diagnosis. It must be admitted that many symptoms formerly thought to be absolutely typical are in the very nature of things purely accidental, depending upon the localization of the morbid process and upon the reaction of the tissue to it. The determining causes are not altogether understood. In multiple sclerosis there is, from an anatomical point of view, a large expanse of nerve tissue susceptible of being the seat of the numerous or sparsely scattered patches of sclerosis. The exact nature of this

sclerotic process is not known, and what we do know of its microscopical character gives very little ground for the resulting symptoms. This much, however, is certain—the spinal cord responds in characteristic motor symptoms of a non-degenerative type, while the brain and cranial nerves, especially the optic, respond in terms of disturbed function, complex or not, according to the location of the sclerotic patch. It is this location on the optic nerve which makes it possible to diagnosis multiple sclerosis by the presence of one or two spinal symptoms, not characteristic of any one disease, and by the presence of a group of ocular symptoms which, owing to the specialized nature of the optic nerve, are more in the nature of specific symptoms. The following case illustrates the points here brought out and emphasizes the necessity of a careful eye examination in all cases where the diagnosis is in doubt. As the chief interest of the case, outside of the diagnosis, lies in the eye findings, the clinical history and physical examination will be given very briefly.

Mr. F., age thirty, laundryman by trade, unmarried, of excellent habits, with no venereal history, was sent to me by his family physician. His chief complaint is stiffness of the right leg with some difficulty in walking. With the exception of pneumonia early in life, there is no important previous sickness. About three years ago the patient first noticed that his right leg was stiff and awkward. This apparently disappeared, leaving only a certain degree of weakness behind. After a period of remission extending over six months, the patient noticed a return of his former symptoms, which at this time involved the left leg in addition. A slight uncertainty of gait was the result of this extension of his symptoms; this annoyed the patient very much, especially so in his daily work, which had to do with getting on and off of a delivery wagon, mounting stairs, and carrying bundles. After a month or so there was again marked improvement, so much so in fact that the patient considered his trouble had disappeared. About one year ago the wagon which the patient was driving, was run into by an electric car. The resulting shock threw him to the ground without, however, producing any noteworthy injuries. There was, however, considerable mental shock. After the accident the old symptoms returned, but more severe in character, and to the accident the patient attributes the reappearance of his present symptoms. The chief complaints at present are weakness and stiffness in both legs, more marked on the right side. Physical examination: internal organs negative; urine normal. Gait: a very marked spastic parietic gait, more pronounced in the right leg than in the left. The right leg is carried stiffly and dragged along the ground. There is a very slight intention tremor in the finer movements of the right arm and hand. This tremor varies from time to time and is different at almost every examination, at times being hardly perceptible and at others so marked that there is no doubt of its existence. There are absolutely no disturbances of sensibility. Many and careful tests were made before this negative result was reached. No astereognosis and no disturbance in the muscular sense. Reflexes: the knee-jerks are pathologically increased in both legs. The slightest tap at or in the neighborhood of the patellar tendon produces marked excursion of the leg; the right leg shows this more pronounced than the left. The Achilles jerk is markedly exaggerated; ankle clonus present on both sides. The Babinski reflex is absent, though repeatedly sought for. The cremasteric reflex is increased on both sides. There was no scanning speech nor any speech defect, no nystagmus, no mental symptoms of

any sort. The enunciation is slightly nasal but otherwise normal. There were then present in this case a group of symptoms pointing to a profound disturbance of the motor system in the spinal cord, especially in the pyramidal tract. The diagnosis from these data could only be tentative. Attention was drawn to the eyes for two reasons, first as a matter of routine examination in cases of this character, and secondly because the patient had complained of some difficulty in seeing objects at a distance. As will be seen, the data obtained from the ophthalmological examination solved the problem completely.

Generally speaking, the ocular structures do not participate, either clinically or pathologically, in the picture of multiple sclerosis before the disease is well established. Occasionally, however, as Swanzy (1) and others have pointed out, characteristic defects of vision and ophthalmoscopic appearances may precede other symptoms by months, or even years. Ocular examination, therefore, may lead one to suspect a beginning multiple sclerosis long before the disease can be positively diagnosticated. Thus Craig (2) observed a unilateral optic atrophy in a nine-year-old boy, who in his twelfth year developed nystagmus, intention tremor, prolonged scanning speech and spasticity of the lower extremities. In thirty-eight undoubted cases of multiple sclerosis, Bruns (3) noted that in fourteen the first symptoms was ocular. Furthermore, exact observation and correct interpretation of the ocular signs will often aid greatly in establishing a differential diagnosis between the early stage of multiple sclerosis and certain types of hysteria. Allusion will be made to this point later.

The ocular symptoms include defective vision, concentric and irregular contraction of the visual and color fields, color, and rarely absolute scotomata changes in the appearance of the optic disk, and disturbances of the ocular and orbital muscles. These symptoms usually develop suddenly, though occasionally their appearance is gradual, and they may affect one or both eyes. They vary greatly in degree, often disappear entirely for a time, but eventually reappear. This "symptom-fickleness" is especially characteristic.

The visual defect is not, as a rule, very great. Vision may be totally in abeyance for a time, but permanent, complete amaurosis is rare. Varese (4), however, observed a case of multiple sclerosis in which a bilateral optic neuritis terminated in complete atrophy and blindness. Not infrequently there is a striking incongruity between the visual defect and the ophthalmoscopic appearance, and as Bruns and Stoelting (5) have noted, the greatest diminution of vision and contraction of the field may obtain in the eye whose disk is, ophthalmoscopically, the least affected.

The alterations of the visual and color fields are very varied. The visual field may be either concentrically or irregularly contracted, with or without the presence of a central scotoma. The latter is usually relative, although transitory absolute scotoma has been observed by De Bono (6) in a case of papillitis with temporary amaurosis. Occasionally the color fields are narrowed, this condition often being accompanied by central color scotoma. Sometimes the fields are dissimilar in the two eyes. In three cases of optic atrophy occurring in the course of multiple sclerosis, Leitner (7) observed in the first, concentric color contraction; in the second, peripheral contraction without central scotoma; in the third, central scotoma with normal peripheral fields in one eye and color contraction in the other. It is important to note that extensive destruction of

VISUAL FIELDS.

LEFT.



RIGHT.

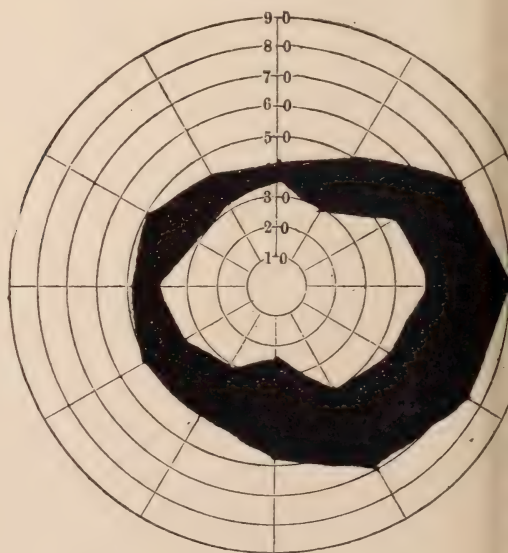


FIELDS FOR BLUE.

LEFT.

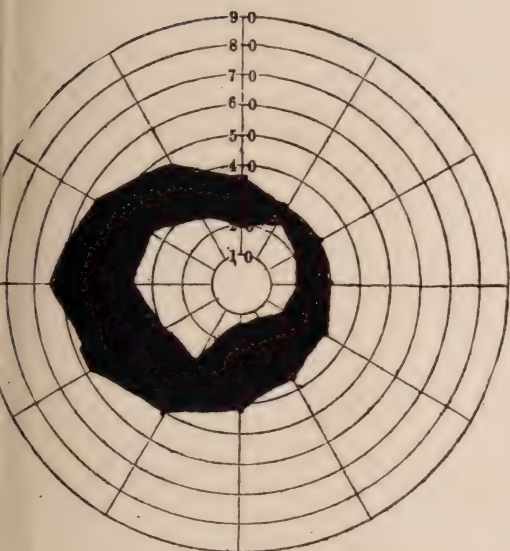


RIGHT.

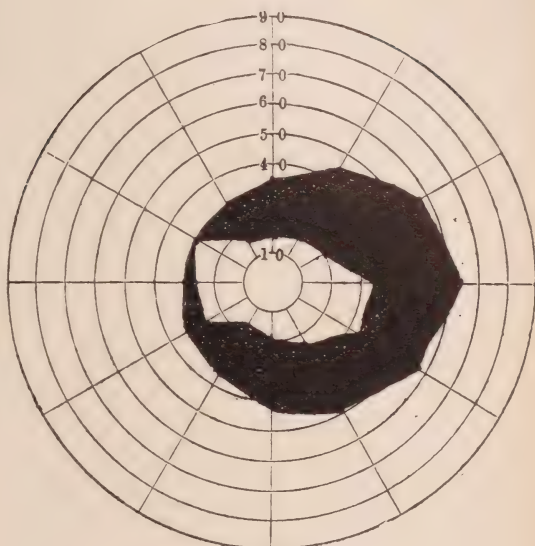


FIELDS FOR GREEN.

LEFT.



RIGHT.

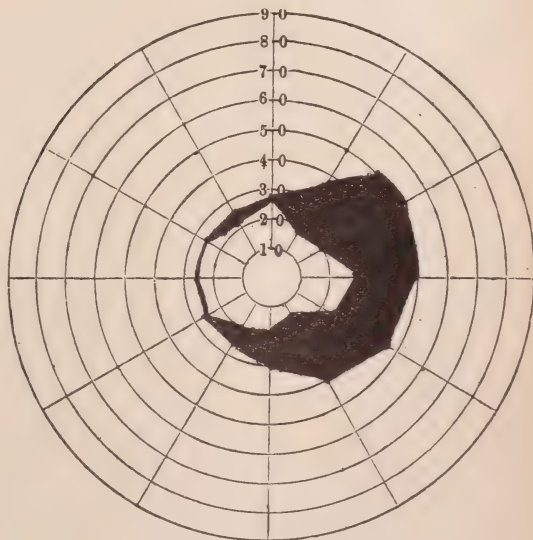


FIELDS FOR RED.

LEFT.



RIGHT.



sight and notable defects in the visual and color fields may obtain without change in the appearance of the disk.

The ophthalmoscope reveals changes in the papilla in about one-half of all cases of multiple sclerosis. The most frequent appearance is a moderate grayish discoloration of the entire disk. Temporal atrophy, the nasal half of the papilla retaining its normal appearance, gives an ophthalmoscopic picture closely resembling that of toxic amblyopia, and is often found. Luebbers (8) in an examination of eleven cases of multiple sclerosis with eye changes, noted complete but moderate atrophy of the entire disk in six, and in five temporal atrophy only. Slight transient neuritis has been observed by Uhthoff (9) and Buzzard (10), who are of the opinion that the condition is often overlooked. De Bono (6) reports an interesting case in which a severe neuroretinitis preceded by six weeks any other symptom of the disease. Bruns and Stoelting (5) believe that the nerve trouble begins with an interstitial neuritis which may terminate either in complete restoration of the disk, or in diffuse or temporal atrophy. The inflammation may be strictly retrobulbar, in which case the ophthalmoscopic findings are negative. Hemianopsia has never been observed. The neuritis is presumably caused by sclerotizing foci immediately behind the disk.

Of the various oculo-motor derangements, those of unquestioned nuclear origin are defects of the conjugate motions to the right or left and paresis of the power of convergence (Swanzy) (1). Limitation of conjugate motion to the left was noted by Nagel (11) in the early stages of the disease. Unilateral abducens paralysis, as noted by Frank (12) and Gutmann (13), and partial paralysis of the motor oculi, are peripheral in origin. Bilateral paresis of both abducentes (Schuster and Bielschowsky) (14) are probably of nuclear origin. Kunn (15) observed the development of true convergent squint—*i. e.*, without paralysis.

Nystagmus, which is present in about one-half of all cases, is divided by Kunn (15) into (*a*) true nystagmus and (*b*) nystagmic twitchings, manifest only when the eyes are turned to extreme positions. Under the term "fixation trembling" Kunn (15) describes a phenomenon observed only at the moment of fixing an object. The visual axes converge momentarily to a point a little in front of the object, then immediately to a point a little beyond the object, and, finally, after two or three oscillations converge accurately at the desired point.

The state of the pupils is usually normal, though Uhthoff (9) noted slight abnormalities in sixteen per cent. of his cases. According to Hoffmann (16) disturbances of the pupil are rare and are not typical of multiple sclerosis. Difference in the size of the two pupils has been noted by Probst (17). Damsch (18) observed hippus as the only demonstrable cerebral lesion in two cases. Reflex rigidity and impaired light and convergence reaction are occasionally met with. In some cases with normal visual acuity Kunn (15) observed a blurring and dancing of letters and lines which he ascribes to trembling of the ciliary muscle.

In the differential diagnosis between multiple sclerosis and hysteria the ocular symptoms will often give important aid. Changes in the optic papilla with transitory central scotoma, recession of the color fields in *their physiological order*, and the presence of nystagmus and paralyses, speak for multiple sclerosis. On the other hand, a normal disk, contracted fields without central scotoma, irregular and erratic contraction of the color fields, and the absence of oculo-motor disturbances would all tend to corroborate a diagnosis of hysteria.

The patient, Mr. F., was referred July 26th, 1903, for examination of the eyes. The refraction, estimated without cycloplegia, proved to be a compound myopic astigmatism as follows:

O. D. M 1.25	Am 1.5	Mc 100°	V 16-15
O. D. M 1.	Am 1.5	Mc 90°	V 16-15

The excursions of the globes were unrestricted in all directions. Nystagmus and "nystagmic twitchings" absent. An examination of the muscular balance showed orthophoria. The pupils were equal and reacted rather sluggishly to light.

Ophthalmoscopically, the right papilla exhibited a rather dirty grayish white discoloration in its temporal half, the nasal portion being somewhat hyperemic with blurred margins. In the upper outer portion of the atrophic temporal half was a round, dark gray spot, in size about one-fifth the diameter of the disk, set off from the grayish white background. The left papilla was very hyperemic with indistinct margins. No swelling could be detected. The visual fields (see diagrams) showed a slight concentric contraction, more marked in the right eye. The fields for blue, green and red have suffered a notable concentric contraction, especially conspicuous in the temporal half of each field. As will be seen from the diagrams, the color contraction was rather greater in the right eye. Central vision for colors was normal.

The hyperemia of the left disk is probably the expression of a low-grade neuritis. In the right eye the appearance of the nerve-head is that of a typical partial atrophy. These signs, in conjunction with the contracted visual and color fields, furnish data of considerable importance in establishing a positive diagnosis of multiple sclerosis. Such a diagnosis is justified when there are present symptoms pointing to an involvement of spinal cord structure sufficiently pronounced so that spasticity with increased deep reflexes and clonus are produced together with ocular symptoms and eye ground changes which can be assumed to be dependent upon the same process which is present in the cord.

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THE REFLEXOGRAPH AND ITS USES—BEING AN APPARATUS TO AUTOMATICALLY MEASURE, TIME AND CHART THE KNEE- JERKS, AND FOR OTHER PURPOSES.

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It has long been evident to the author, and probably to every one else who has had much to do with neurology, that the ordinary way of testing the reflexes is crude and unscientific, allowing too much opportunity for error, having nothing of precision, and being altogether a very arbitrary method of making an estimate of the qualities of the reflex.

The usual mode of testing—striking either with a hammer or the fingers, and watching the excursion of the foot—gives results pretty much as the operator wills, and the question of personal equation enters so largely into the judgment of the reflex obtained, that, witnessed by two or three persons, there will be a variance of opinion entirely too wide. For instance, a knee-jerk is tested in the presence of three or four physicians; among those present it is usual to find one whose personality or character or attainments make him looked up to by the rest, possibly because of his greater knowledge of the subject in hand. So he has the patient sit with legs crossed, and proceeds to tap with his finger-tips first one quadriceps tendon, then the other, and announces that the reflexes are increased, and in the majority of cases the other physicians present will say: "Yes, they are increased," not because they really think so, but because Dr. So-and-So says so, and he knows. But if the doctor, instead of announcing his opinion, writes on a slip of paper whether he thinks it increased or normal, and invites each of the others to do likewise, when the slips are compared there will be a decided difference of opinion as to whether there is an increase. Of course, this would not be so in extreme cases, like in the spastic jerk of hemiplegia or the absence of response in tabes, but in cases where there is a moderate increase or decrease. Now, this difference of opinion is the personal equation; each man is honest in his judgment; Dr. A. thinks it is increased; Dr. B. thinks it is

normal, simply because there is no standard, nothing to guide him, no acknowledged normal knee-jerk. For this reason of uncertainty the author conceived the idea of testing a large number of cases of all kinds, obtained under practically the same circumstances, to get an idea of what should be considered normal. To make these tests of any value, therefore, the factor of personal equation must be eliminated, for it would not be proper to arbitrarily pronounce this man's reflexes decreased, and that one's normal. To eliminate the factor of personal equation, then, the reflex must be recorded by an unthinking machine, which would not be prejudiced in any way, and would unfailingly record the condition of the knee-jerk and make a written record of same, regardless of what the operator's opinion of that knee-jerk might be. This record being an exact tracing, would not be subject to the factor of personal equation, for if the record should show that the knee jerk, when tried by means of the reflexograph, had an excursion of, say, two inches, and that by means of experiment we had found an approximately normal reflex to be five inches, then no amount of error of judgment or lack of keenness of perception would prompt one to say that the two-inch reflex was not decreased. Of course, this is only an instance, as the two-inch reflex may occur in an apparently normal individual, so also may the reflex which has an excursion of more than five inches. But I do not believe that the range of excursion is as great in normal individuals as is generally supposed, being probably within two inches on either side of five.

Those that exceed that, either way, are probably abnormal, and in most cases the cause can be found if diligently sought. In a previous paper (*Medical Bulletin, Washington University, January, 1903*) the author, in a series of over three hundred cases of non-organic nervous cases, attempted to show that the knee-jerks were decreased by the excessive use of coffee; but these reflexes, while manifestly decreased, were what would ordinarily be considered normal—that is, the knee-jerk was there, was not spastic, and the patient had no organic nervous affliction. These cases proved that in those who were not addicted to coffee, or only moderately, that 52½ per cent. were normal, 10 per cent. decreased and 37½ per cent. increased; while in those who used coffee excessively (say three cups or more per day), the figures were reversed: normal, 37 per cent.; decreased, 40 per cent.; increased, 23 per cent. So, on the basis of coffee intoxication, many reflexes that would fall two inches below the arbitrarily fixed standard of five inches, might be justly considered abnormal, though not usually now so construed. In like manner there is, in all probability, toxins generated in the body, possibly having an action analogous to that of strychnine, which would account for many of the reflexes that have an excursion of more than two inches greater than the arbitrarily fixed standard of five inches. Such knee-jerks frequently found in a certain class of neurasthenics are now classed as normal, but are really exaggerated and should be classed as abnormal. From this, then, it will be evident that if we could establish a normal range of excursion to judge by, it would be something gained, and this can be done with comparative ease by means of the reflexograph.

But the range of excursion in the knee-jerk is by no means the only thing, nor even the most important factor, in judging the condition of the patient. For there are many features about the knee-jerk besides mere increase or decrease, and the sum of all these features must be taken into consideration when examining any given case. The range of excursion may be normal, but with

certain other characteristics that would infallibly cause a knee-jerk to be classed as abnormal; for instance, spasticity, which may be estimated very accurately by the relation which the time taken at the base line bears to the height of the curve as traced by the reflexograph. The knee-jerks, as portrayed by charts, form triangular figures of varying dimensions. One side being formed by the ascending line, and one by the descending line, the third by an imaginary line at the base, which we may designate, for convenience, as the base line. By variations in the lengths and contours of these lines as made by the charting apparatus, a very great difference is made in the charts of knee-jerks of different conditions and diseases. For instance, in one of the charts here shown (Chart No. XIII), measuring five inches from base to apex, the time required was only one-half second, making a very sharp-pointed triangle. Here the excursion of the foot is just about what might be considered normal, but judged by the short base line connecting the two perpendiculars, and indicating the time, it shows at once the characteristics of the spastic-jerk, spastic but not exaggerated.

I believe it is commonly the case that the words "spastic" and "exaggerated" are used synonymously, but that such should not be done may be illustrated by some of the charts here shown. A knee-jerk may be both spastic and exaggerated, or it may be either exaggerated or spastic; it may be spastic and not only not exaggerated, but positively diminished; and, of course, it may be simply exaggerated, but not spastic.

As there are two extremes in distance traversed by the foot in testing the knee-jerks, represented by the diminished and exaggerated, so also in time there are two extremes, fast and slow, the spastic representing the fast knee-jerk, and the choreic representing the slow knee-jerk, with all grades between.

One of the objects the author had in view when making the apparatus was to establish a normal knee-jerk, to be taken as a basis for judging the reflex, to establish a standard (if possible) in regard to length of curve and the time necessary for a complete reflex, which can only be done by charting a large number of knee-jerks from normal individuals, who are not addicted to the use of coffee or other drugs; for, as I have pointed out, those who use much coffee have not normal reflexes. Another purpose to which the apparatus may be put is to study the shape of the curves in different diseases, in the possibility that some variation in the morphology will be manifest, such as shown here in the choreic knee-jerk, which would be of some value in diagnosis. When a patient is first examined a chart may be made of the knee-jerk and filed away for reference, to be compared with a chart made months later, and would show positively any improvement or progress in the disease.

A verbal description of a piece of machinery or an apparatus is usually not very intelligible to those who are not used to mechanical terms; and the more minute the description, the more hazy will be the idea conveyed to the reader of the mechanism described. For this reason, I shall describe below in as few words as possible the reflexograph. By reference to the accompanying photo-engraving (Fig. 2) a much more lucid understanding may be had than from the description alone:

"This apparatus, devised and constructed by the author, will, as the heading of this article indicates, measure the time required for a complete reflex, measure quantitatively the extent of the knee-jerk, and write a comprehensive

chart in the form of curves, somewhat similar to a fever chart, as will be seen in the accompanying illustrations. These demonstrate characteristics of the reflex in different diseases that can be shown in no other way. The apparatus can also be used to record a variety of vital phenomena of interest to neurologists, such as the Babinsky reflex, ankle clonus, tremors, exhaustion of reflex, and for numerous other purposes, some of which are here illustrated.

Since constructing this machine I have discovered that it is not the first made for the purpose, as I had believed, but it is original, in that it was constructed without any knowledge of a pre-existing apparatus of that kind, and is constructed on different principles from its predecessor.

W. von Bechterew reported a machine of his own in the *Neurologisches Centralblatt*, November 2, 1892, which would write the curve of a knee-jerk and

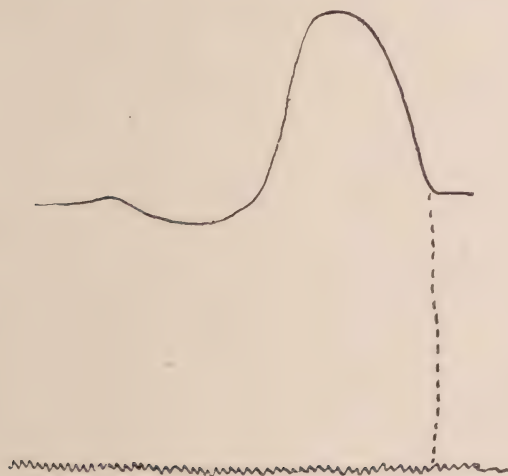


FIG. 1.—Von Bechterew's curve, from a case of epilepsy (from *Neurologisches Centralblatt*), showing the slow ascent and rapid descent, due to the rubber drumhead on the Marey apparatus. Reads from right to left.

show the latent period, but, as far as I know, would do nothing else. It was defective in construction and limited in its uses.

The accompanying illustration (Fig. 1) shows one of the curves made by Von Bechterew's apparatus. Paradoxical as it seems, the strong point in his apparatus is also the weak point, *i. e.*, the rubber-covered drum which is used (the Marey compression apparatus) makes it very sensitive to any impulse, but the resiliency of the rubber so modifies the curve that it is not a true record of the reflex. (1) It imposes a resistance to pressure, which makes a gradual curve on the up-stroke; and (2) when the pressure of the short arm is taken off the rubber by the foot falling back to its first position, there is added the resiliency of the rubber (which had been displaced by force) pressing backward upon the short arm. This causes an abrupt descent on the down stroke of the curve, which is just the reverse of what a knee-jerk curve really is. A normal curve shows either a sudden ascent and a slightly slower descent, or ascent and descent approximately equal (Chart No. XIV), and a pathological curve does not differ from a normal curve to any appreciable extent in the ascending curve, but differs very greatly, and shows the characteristics of the special disease in the descending portion of curve. This can be proved on the author's apparatus, as the construction is rigid and the possible avenues of error eliminated.

In a study of several hundred knee-jerks, occurring in a large variety of nervous diseases, I have never seen a knee-jerk curve, even in spastic cases, in which the ascent was slower than the descent, as in the von Bechterew curve.

The machine is divided into two principal parts: (*a*) one to transmit the impulse from leg to recorder, and (*b*) a recorder to write the chart.

After testing numerous forms and modifications of an automatic striker, I find that for ordinary work a rather heavy metal rubber-tipped percussion hammer is best and most convenient. For special work, and where it is important to make comparisons between the charts of knee-jerks at periods of time sepa-



FIG. 2—The Reflexograph. Illustrating Dr. Bradley's article.

rated by a considerable interval, in order to note any change, a spring hammer may be used, which is so constructed that the blow delivered may be regulated from light to heavy, and can be reproduced under the same circumstances at any time.

Attached to the leg at a measured distance, usually ten inches, from the insertion of the quadriceps tendon, and running backward, is a flexible steel

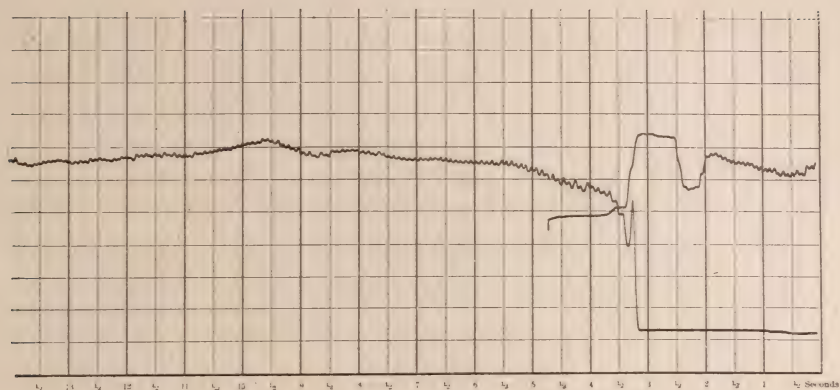


CHART 1.—Lighter. Ankle clonus. Right.
Reduced to one-half.

Diagnosis spinal syphilis.
Read from right to left.

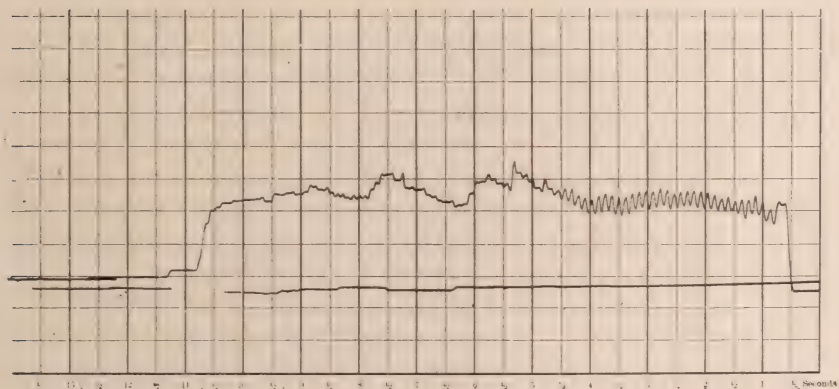


CHART 2.—Ankle clonus. Lighter. Left.
Reduced to one-half.

Diagnosis spinal syphilis.
Read from right to left.

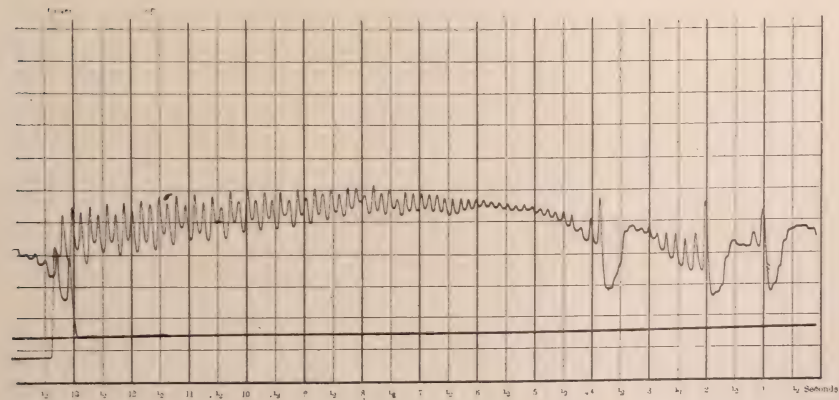


CHART 3.—Ankle clonus.
Reduced to one-half.

Diagnosis spinal syphilis.
Read from right to left.

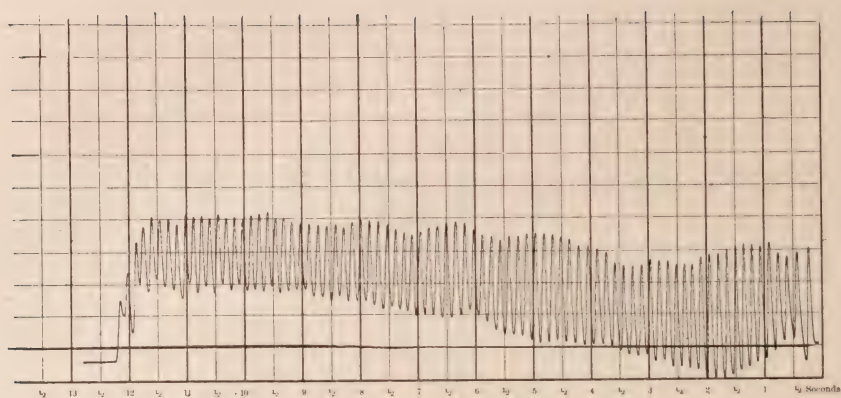


CHART 4.—Ankle clonus. Right.
Reduced to one-half.

Diagnosis spinal syphilis.
Read from right to left.

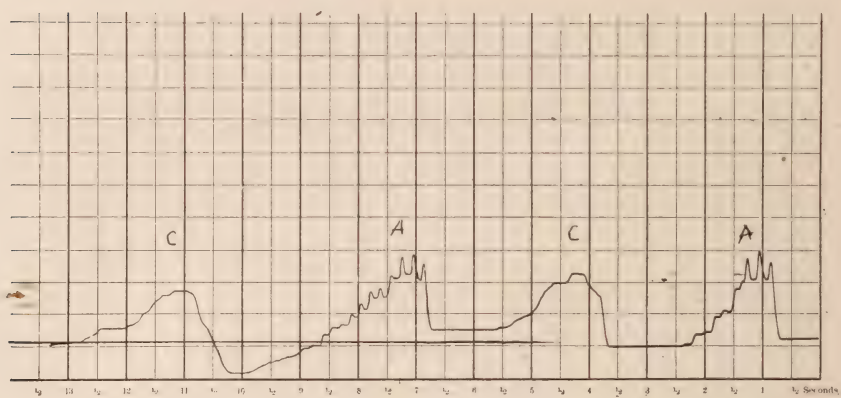


CHART 5.—Babinsky Reflex. Right.
Reduced to one-half.

Diagnosis spinal syphilis.
Read from right to left.

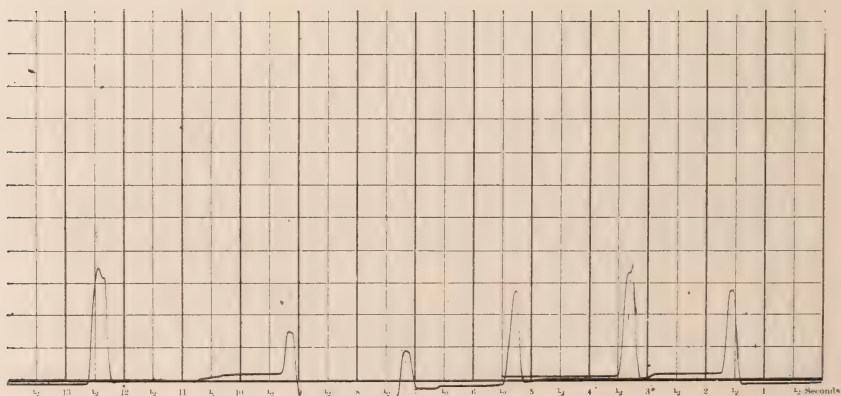


CHART 7.—Dorsal flexion. Left.
Reduced to one-half.

Diagnosis spinal syphilis.
Read from right to left.

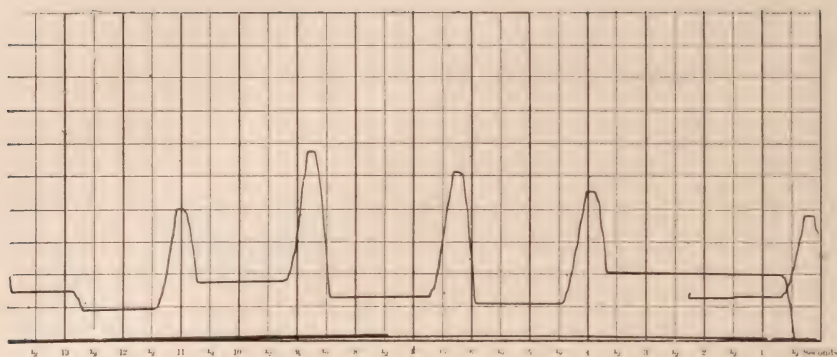


CHART 9.—Knee-jerks of Aug. Dunkled, Left.

Diagnosis chorea.

Read from right to left.

Taken from an unusually severe case of general chorea, with very marked hang-up on left side. This chart, taken from the right side, shows not a trace of the choreic hang-up, and is practically a normal curve.

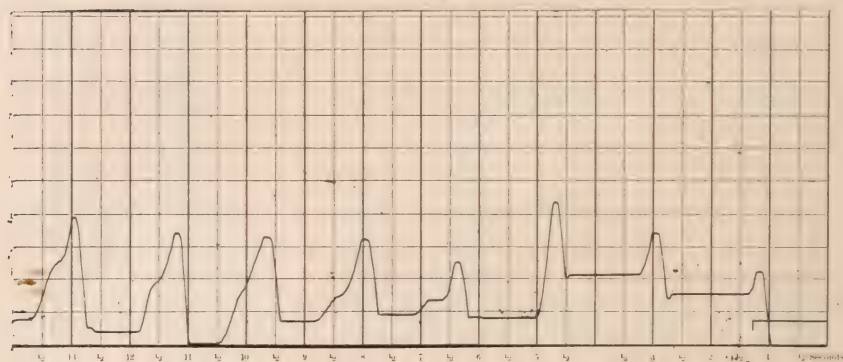


CHART 10.—Knee-jerks of Arthur Benckard, Left.

Diagnosis chorea.

Read from right to left.

Showing that even in cases where the hang-up is present it is not always possible to bring it out. The first three reflexes do not show a hang-up, while the five reflexes to the left do. This is an unusually rapid knee-jerk for a choreic, the time ranging below one second.

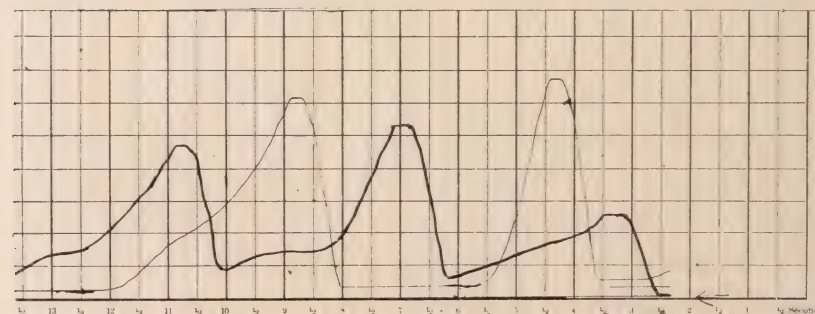


CHART 11.—Knee-jerks of Weidell, Right.

Diagnosis toxic neurasthenia.

Read from right to left.

Showing a choreic hang-up occurring in a case of toxic neurasthenia. Was present only in right leg. Patient had absolutely no signs of chorea and had never had chorea.

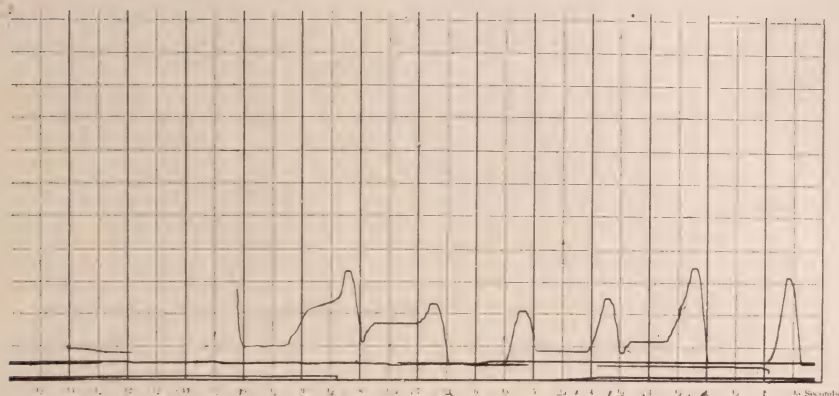


CHART 12.—Knee-jerks of Gulleck. Right.

Diagnosis specific hemiplegia.
Read from right to left.

The last two reflexes to left of series show characteristic choreic hang-up. Taken from a case of spastic hemiplegia. Patient has never had chorea.

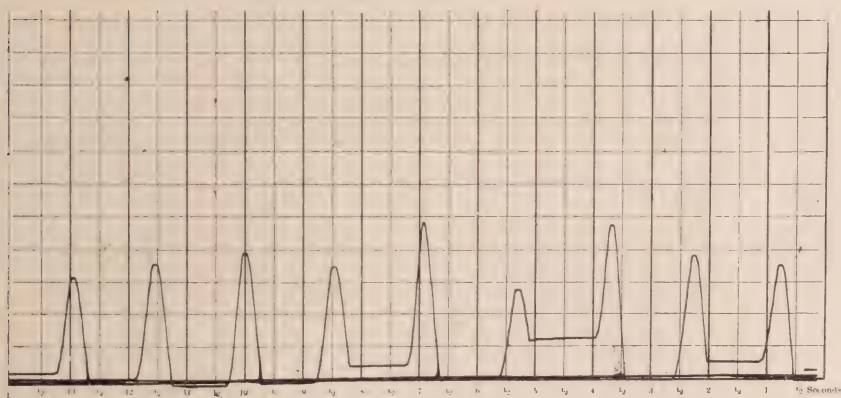


CHART 13.—Knee-jerks of Gulleck. Left.

Diagnosis specific hemiplegia.
Read from right to left.

A spastic knee jerk, but is not exaggerated. Note the height compared with the short base line, measuring one-half second.

wire running through brass tubing. This wire by flexion permits the foot to move in any direction, sideways, or vertically, but the wire itself being ensconced in tubing for a portion of its length, can only move in a horizontal direction, backwards or forwards. By this arrangement the movement of the foot which travels in an arc of a circle is changed to a movement of backward or forward only. Attached to the wire is an extension tubing, capable of elongation to meet the varying lengths made necessary by the movement of the foot. This extension tube is pinned to the end of the flexible steel wire and extends at an angle to a rod running in a hollow tube, which sets parallel to and is placed at a distance of twenty-two inches from the tube carrying the steel wire. This rod moves in a direction opposite to the direction taken by the wire attached to foot, so that when the foot moves forward the rod is pushed backward. The end of this moving rod is attached to a traveling penholder on the recording apparatus. The rod which runs at an angle from the steel wire is mounted on a pivot, which allows it to swing with the minimum of resistance and is perforated at different places to change the point of mounting, so that the motion transmitted

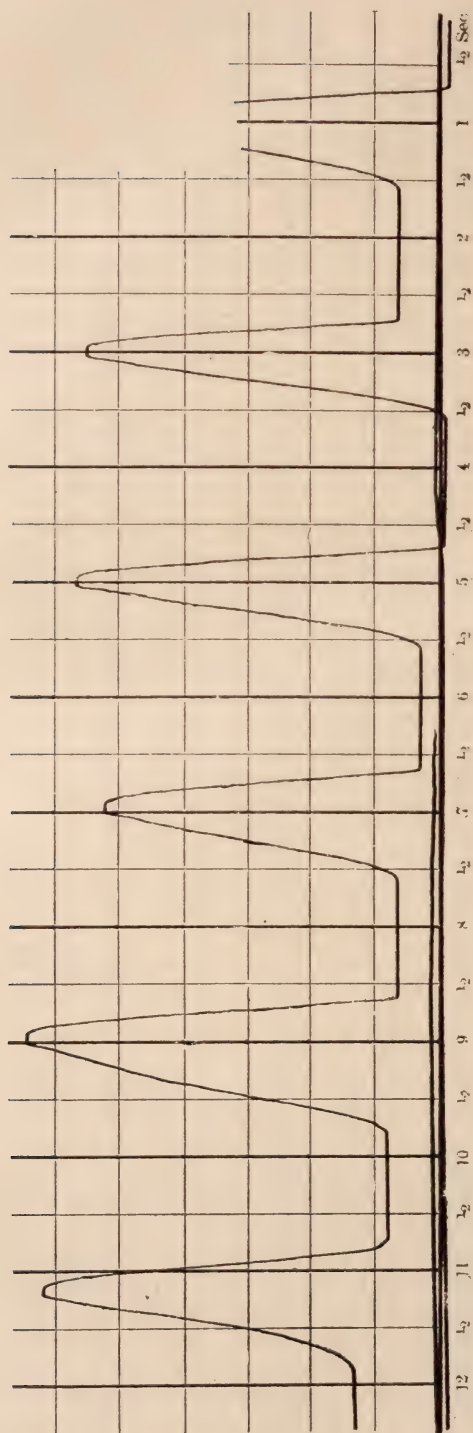


CHART 14.—Knee-jerks. Left.

Reduced to one-third.

A series of normal knee-jerks, showing the uniformity of the up-stroke, each one taking one-quarter second from base line to apex, while the down-stroke from apex to base varies from one-quarter to three-quarters of a second.

by the foot is reduced to certain different ratios. It can be set so that a radius of action in which the foot moves over the arc of a circle to the extent of one foot can be reduced to record either one-half, one-third, one-fourth, one-fifth, one-sixth of that foot. For instance, if the leg at point of attachment moves nine inches, and the apparatus is set at one-third, the chart will make a record of the knee-jerk which will be three inches from base line to apex. This portion of the apparatus is composed of material which does not either stretch or bend; there is no lost motion, and the impulse received from the moving ankle is transmitted without loss or change, except to reduce it to a definite ratio as explained above.

The recorder is an apparatus consisting of a drum and table, run by clock-work, with a governor attached to overcome the jerking motion inevitable in such mechanism. It is so arranged by simply turning a thumbscrew the speed of the drum can be varied from five revolutions per minute to fifty revolutions per minute, and the table which moves from side to side can be speeded to travel its allotted distance in from one minute to fifteen minutes.

Traveling on two rods above the drum is an adjustable penholder which can be set at any angle, and in which may be fastened by a thumbscrew a fountain pen, crayon or pencil. This holder is attached to the rod of the transmitter.

The moving table or plate is designed for either smoked paper or plain charts, and is for such purposes as getting the exhaustion of the reflex or any purpose where a large number of records are desired in a single chart, having room, and being so speeded as to accommodate several hundred records on a single sheet.

For taking charts of Babinsky reflex, ankle clonus and tremors, the transmitter shown in the illustration is not used; but instead a small rod is attached, one end to the traveling penholder, the other to the great toe.

This apparatus can be speeded so as to make from one or two curves up to ten or twelve on a single chart, which is of some value for comparison or to obtain an average, as the knee-jerk curves differ slightly in the same individual and in the same leg, even when obtained apparently under exactly the same conditions."*

The blank charts used for these records are prepared by ruling carefully spaced lines in two directions, horizontally and perpendicularly. The horizontal lines are exactly three to the inch; so that when the charting apparatus is set to reduce to one-third, which is the ratio for common use, each space from below upwards indicates a movement at the ankle of one inch. For instance, when the knee-jerk is elicited, if the ankle moves forward in the segment of a circle for a distance of six inches, the charting apparatus will make a line running from the base line up through six spaces, indicating six inches. The perpendicular lines are used for measuring the time of the curve, the drum being speeded to move the chart across the pen the distance of one space in one-half second—from dark line to dark line, including two spaces, one second. Every second line is made darker to break the monotony of the series of lines, and makes counting easier. It was thought best not to use the ordinary electric apparatus for marking time, as it divides time into fiftieths and hundredths of a second, which is a refinement entirely unnecessary, as half seconds and quarter seconds are fine enough divisions for all practical purposes, except where it is desired to measure the latent period.

Charts Nos. 1, 2, 3, 4 are an interesting series of curves, taken from different cases of spinal syphilis, in different stages of the disease. Charts Nos. 1

* From Bulletin of Washington University, July, 1903.

and 2 are taken from the same patient, the right leg being the least affected, and who was able to be about with the aid of a cane, but incapacitated from work. It will be observed that in the chart taken from his good leg, the tracing shows a line almost like a tremor, the excursions of the toe being of a very limited range, while in that taken from his left leg, the curve is courser, showing a greater latitude in the movements of the foot. Nos. 3 and 4 are taken from cases of spinal syphilis which have progressed to such an extent as to confine patients to bed. Although I am not prepared to say positively that such is the case, not having charted a sufficient number of cases with ankle clonus to be certain, still, in those charts, the indication is that the more severe and extensive the spinal lesion, the coarser the tracing of the ankle clonus will be, ranging from a mere tremulous line to a chart showing movements of an inch or more. Charts 5 and 6 are made from spinal syphilis to show the Babinsky reflex. In chart V (A) represents the ordinary dorsal flexion of the great toe with spasmodic movements. Chart VI (B) showing dorsal flexion with spasmodic movements, but with a descent like the real Babinsky descent. Charts V (C) and VI (C) shows the real Babinsky sign, with a slow ascent, sometimes with a pause when fully extended as shown by plateau on top of chart in middle curve, then giving a leisurely descent, the so-called vermicular motion of great toe. In chart VII a condition is shown, which I have not seen mentioned anywhere. On irritating the sole, as in the Babinsky sign, instead of getting a normal plantar flexion, or a real Babinsky sign, the great toe is suddenly extended (dorsal flexion) and very rapidly flexed again. It is what might be called a spastic dorsal flexion. Have observed it in spinal syphilis and cerebral hemiplegia. Charts VIII, IX and X are all taken from different cases of chorea. In order that these charts may not be misunderstood, it is necessary to keep in mind just what a choreic knee-jerk is. The characteristic knee-jerk of chorea was first described by Gordon in *British Medical Journal*, March 30, 1901, page 765, wherein he uses the following language in speaking of the knee-jerk of choreics:

“When patient is recumbent, if one raises the knee, allowing the heel to rest on the couch, making sure that all the muscles of the limbs are relaxed for the time being, and if one then tests the knee-jerk in the usual way, the foot is found to rise more or less smartly; but instead of falling back immediately, it remains suspended for a variable time—hung up as it were—and then slowly sinks back to its initial position.”

This sign is now pretty generally recognized and accepted. Is endorsed also by Spiller, *Prog. Med.*, September, 1902, page 319, who further quotes: “Gordon says he has found these modifications of the knee-jerk in many cases of chorea, but never in non-choreic cases.” This peculiarity of the knee-jerk is frequently found in one side only. In cases of hemichorea it is usually on the choreic side, but may at times be on the sound side. Chart No. 8, taken from an unusually severe case of chorea, shows a very marked hang-up—that is, the leg, after going up promptly enough, remains suspended for a time just after beginning to come down, making a step-like interruption on the down stroke of curve. Chart No. 9, taken from left leg in same patient, shows an entire absence of the hang-up, and is an approximately normal curve of the knee-jerk. This was a severe case of general chorea. No. 10 (chorea) illustrates that even in a

case in which hang-up is present, it may not be possible to bring it out invariably. The first three reflexes show no sign of a hang-up, while next succeeding five reflexes show it plainly. Charts Nos. 11 and 12 show the choreic hang occurring in diseases other than chorea. I have never seen any reference in the literature of choreic hang-up occurring in other diseases, and Gordon specifically says that it does not so occur. Nevertheless, I have seen it in a considerable number of cases and in quite a variety of diseases, some of which I have been fortunate enough to chart. No. 11 is from a case of toxic neurasthenia, with a well-marked choreic hang-up, which persisted for several months, gradually disappearing. Chart No. 12 from a case of specific hemiplegia, also shows the choreic hang-up; is also spastic and diminished in amplitude, the series on the chart showing no reflex greater than three inches. This is a very unusual grouping of features to occur in the knee-jerks of the same patient; spastic, diminished and choreic. In this case also the choreic hang-up, unlike those occurring in the former cases, seemed to be a permanent condition, remaining as long as the patient was under observation, some seven or eight months. I have also observed the choreic hang-up in several other cases of neurasthenia, and in one case of specific lepto-meningitis, but from whom I was unable to get charts.

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EDITORIAL COMMENT.

THE ST. LOUIS INSANE ASYLUM.

In the May number of the JOURNAL attention was directed in this department to the annual report of the superintendent of the St. Louis Insane Asylum. The unique character of this report was touched upon and the various elements which gave it especial interest were noted. After a period of eight years, devoted to the care of some eight hundred insane patients, representing an ever-changing material in point of character, but a stable one in respect to numbers, the directing head of such an institution is in a position to speak with some authority, and for this reason, if for no other, the resume of Dr. Runge's eight years' active work should be received with respect and attention. The problems presented in the management of a public institution of this sort may be considered in three divisions: the purely administrative, the medical, that is the clinical, and the sociological. Of the first, there is little to be said, and what there is may be summed up in a few words that would describe the constant struggle between insufficient appropriations and an ever-growing need. There is no necessity to touch upon this question; a bald statement of the fact that the daily average of patients has increased from three hundred and eighty to six hundred and eighty-one in eight years, with no addition to the facilities or to the yearly appropriation points to the lack of municipal conscience with an almost tragic insistence. It must be again emphasized that the main fault for this condition of affairs lies with the indifference of the body of physicians of this city towards the institution. This part of Dr. Runge's paper makes bad reading, but if it serves the purpose of bringing the facts as they are before the medical profession, a certain amount of good may follow.

The purely medical aspect of the paper is of varied interest and reflects more of the personality of the author than the other parts. Psychiatry, unlike the other departments of medicine, has not yet felt to any considerable degree the influence of objective scientific methods. Pathology, with the exception of the case of dementia paralytica and of idiocy and imbecility has not been able to give a basis for either a rational classification, a proper conception or a groundwork of treatment of mental disease. As a result, there are almost as many psychiatries, so to speak, as there are well-trained psychiatrists. It is the purely personal aspect which lends to this part of Dr. Runge's paper so great a degree of interest. In the matter of classification the influence of Kraepelin can be seen in the prominent place given to dementia precox. Mania and melancholia are still regarded as separate types. Such terms as neurasthenic, hypochondriac and hysterical insanity seem at variance with the best opinions today. Such a term as cerebraesthesia recalls the early classification of Beard and his followers. After all, however, there is sufficient elasticity at present in all our systems of classification to allow of almost any terms which mean clinical differences. It is in respect to the therapy, used in the broadest sense, that one finds this paper so far in advance of the usual ones. For eight years 21.8 per cent. of recoveries and 69 per cent. of recoverable cases seems a very remarkable achievement. Notwithstanding the meagerness of assistance, the small number of trained nurses, inadequate equipment, overcrowding, the ratio here obtained is about that found in the records of the best equipped asylums. This means just one thing, and that is that among the recoverable cases the personal influence of a mind trained in practical psychology has been most strenuously at work. The shifting ground that lies between a recovering mania or melancholia and normal health is the place, above all places, where the finer art of a psychiatrist comes into play. The account of a few typical cases included in the paper illustrates this very well.

We turn to the part devoted to imbecility and idiocy with a certain misgiving. In the city of St. Louis there is no provision made for the reception, instruction and treatment of this class of patients. Outside of a few, who for one reason or another, come into touch with advanced methods in the asylum, the rest are taken to the poor house. This is a non-medical establishment, housing almost one thousand insane poor. The contrast between the good results obtained in the few cases which come under the influence of proper pedagogical methods and the absolutely hopeless tragic fate of the others is sufficiently emphatic to condemn a method so antiquated and so cruel that we must go back to the middle ages to find its counterpart. It should be written in flaming letters, that over one thousand insane, together with idiots and imbeciles, are crowded together in one building, under the direction of a non-medical political appointee. Let it be remembered also that within a stone's throw of this place is an institution under the charge of a well-trained psychiatrist, and yet between them there is no connection and no co-operation. It is questionable whether civic stupidity and ignorance can equal this state of affairs anywhere.

The third aspect of this paper is the relation which an institution of this kind bears to the community which it serves and to the body of physicians whose patients are received in it. As a means of education in psychiatry, an institution of this sort should be of the greatest value. That it is not so is a fact to be deeply regretted. It is to be hoped that this paper will awaken in the minds of many a feeling of at least intelligent interest in the work done there. After this state is reached some hope for the rest may be given. It must also be re-

membered that these institutions become the final home of some 1700 citizens of this city, who are deprived of their liberty as the result of disease. It should be seen to that this home should be to them as favorable a place as possible for their comfort as human beings and for their mental and physical improvement.

This paper of Dr. Runge is a notable achievement, and deserves to be read with sympathy and interest.

ARTIFICIAL FERTILIZATION OF ANIMALS.

J. Iwanoff in *Russky Wratsch* (No. 12, 1903) gives a preliminary account of a series of experiments he has made with artificial impregnation of various animals. As a whole, the results of these experiments were extremely satisfactory, so much so that the Russian government has offered Iwanoff an opportunity to put the results of his observations to practical use on cattle and horse ranches. By means of this experimentation on a very large scale the author's contentions have proved exceedingly practicable. When the attempts were made in a systematic way under favorable conditions during the period of heat of the respective animal, mechanical introduction of sperma showed a higher percentage of impregnations than the normal sexual act. Thus—*e. g.*, in the spring of 1901 artificial insemination of mares yielded a favorable result in every case.

Artificial impregnation of animals was attempted several hundred years ago by Harvey; later on a larger scale by Spallanzani. Marion Sims, probably, was the first to try this procedure on sterile women. He is at least the first who reports an account of such experiments made upon twenty-seven patients, as he contends, with success in one instance. We find in the literature of the last decade several short reports on similar attempts, but the procedure never found favor in the profession. Difficulties in the proper technic of these applications, the danger of infection of the uterine cavity, and not least the fact that this treatment of sterility is equally repugnant to the patient, her husband and the physician, have barred this procedure from a more extensive use.

While thus the eminent practical importance of the observations of Iwanoff in cattle raising and horse breeding is obvious, it is more than doubtful whether they will prove an impetus for new attempts of treating by means of artificial impregnation that form of sterility that is supposed to be due to mechanical obstruction within the cervical canal.

The results of Iwanoff's experiments are, however, of high scientific interest. He is a pioneer in using for these injections instead of the seminal fluid, as all the preceding experimenters did, a suspension of spermatozooids in either normal saline solution or a slightly alkaline solution of soda. The spermatozooids were recovered directly from the testicles of animals, and at this occasion the interesting observation was made that spermatozooids from animals that were dead as long as twenty-seven hours, had still retained the faculty of fertilization. These experiments explode the teachings of some authorities that the secretions of the prostatic, of Cowper's glands, etc., are indispensable constituents of the seminal fluid. These experiments prove beyond doubt that sexual apathy on the part of the female during cohabitation cannot any longer be considered of importance in the etiology of sterility. That the supposed aspiration of the semen by means of a contraction of the uterus during the orgasm is not essential for impregnation has been shown by the great number of successes following the simple injection of the spermatozooids into the vagina.

Several years ago Fuerbringer advanced the theory that abnormal chemical constitution of the prostatic secretion, due to chronic inflammatory processes in the gland, is detrimental to the vitality of the spermatozooids. In a slightly modified form this theory has at present a number of advocates among leading authorities. Iwanoff's strikingly successful experiments by exclusion of the prostatic fluid would seem to substantiate this view.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Case of Spleno-Medullary Leukemia Successfully Treated by the Use of the Roentgen Ray.—SENN (*Medical Record*, August 22, 1903) recently reported two cases of pseudo-leukemia that recovered under the x-ray treatment. He reports here a case of spleno-medullary leukemia with similar results.

The enormously enlarged spleen nearly reached the pubes below, and extended two inches beyond the median line on a level with the umbilicus. In an upward direction the splenic dullness extended as far as the sixth rib. When the treatment was begun on February 3d the blood examination gave the following results: erythrocytes, 3,500,000; leucocytes, myelocytes and eosinophiles, 64,800; hemaglobin, 56 per cent. The eosinophiles were numerous, and the poikilocytosis was very pronounced. During the course of the treatment the use of the x-ray had to be suspended for a day or two on several occasions owing to high temperature and other symptoms of intoxication. The constitutional symptoms became very prominent at the time the spleen first presented indications of progressive decrease in size, about three weeks after the beginning of the treatment. The blood examinations, which were frequently made, showed that the improvement kept pace with the reduction in the volume of the spleen. The first decided changes were the gradual disappearance of the myelocytes and eosinophiles, and the return of the erythrocytes to their normal shape. An examination two months after the beginning of the treatment showed no myelocytes, a few eosinophiles, and very little poikilocytosis.

In June the patient returned home, practically cured. Menstruation, which had ceased for a year, returned to the normal. The final blood examination showed no abnormalities. The spleen and liver returned to their normal proportions. This being the only case which the writer has seen recover from leukemia, he concludes that the cure must have been brought about through the application of the rays. He states, too, that he has "not seen a single case of either carcinoma or sarcoma benefited by this treatment."

There can be no longer any doubt as to the microbic origin of leukemia, nor of the anti-microbic action of the Roentgen ray. The transillumination of the affected bones undoubtedly accomplished its share in destroying the microbes of the general infective process. The writer believes that the germs of spleno-medullary leukemia are very susceptible to the action of the x-ray, and concludes that the rays promise to accomplish much in the treatment of both genuine leukemia and pseudo-leukemia, and seems to prove that, etiologically, the two affections are very closely allied.

Concerning the Absence of Casts in the Urine of Nephritics.—TREUTLEIN (*Muenchener Medicinische Wochenschrift*, No. 35, 1903) conducted a series of systematic observations and experiments with reference to casts in the urine of nephritics, and arrived at these conclusions: That there are cases of nephritis, otherwise typical, presenting albuminuria and retinitis albuminurica, in which the sediment contains no casts whatever; that this cannot be looked upon as a digestive process due to the pepsin excreted by the kidneys; that leucocytes, due to an existing cystitis, which has ascended into the pelvis of the kidney and the uriniferous tubules, do not possess the power of dissolving the casts; that the leucocytes of ordinary surgical abscess do not have this faculty

either; that this cylindrololysis is caused by the action of bacteria (*Bact. coli*). This occurs in cases in which there is an existing cystitis, either in the bladder or in the pelvis or uriniferous tubules. The ferments of the *Bacterii coli* alone have not the power of dissolving casts.

The Diagnosis of Chronic Nephritic Processes.—SCHWARTZKOPF (*Muenchener Medicinische Wochenschrift*, No. 35, 1903).—The absence of albumin in the urine does not exclude the possibility of a nephritis. Even in well-developed cases, albumin may be absent. This is especially true in cases of chronic interstitial nephritis with polyuria. The writer maintains that urinary casts practically never occur in healthy individuals. There can be no doubt that an early diagnosis of nephritis may frequently be made through the examination of the sediment, even though tests for albumin are negative. A number of cases are cited in corroboration of this view.

The Inheritance of Syphilis and the Placental Transmission of Variola.—KASSOWITZ (*Wiener Medicinische Wochenschrift*, No. 33, 1903) presents the following rules with reference to the inheritance of syphilis:

1. A woman in whom no evidences of syphilis have ever been found, may give birth to a number of syphilitic children, if the father had had syphilis.
2. The intensity of such a syphilitic affection depends not upon a recent, hidden affection of the mother, but upon the disease of the father.
3. After a thorough mercurial treatment of the father, perfectly healthy children have been born, though previously only diseased children were born.
4. The same has been frequently noticed when a second marriage replaced a syphilitic husband with a healthy one.

Tetany and Autointoxication.—LOEBL (*Wiener Klinische Wochenschrift*, No. 33, 1903) is led to conclude from his observations that in typical cases of auto-intoxication some of the cardinal symptoms of tetany are frequently present—usually Chvostek's, Erb's and Hoffman's signs.

In two-thirds of the cases of autointoxication observed by the author there were tonic spasms of the muscles of the extremities, without loss of consciousness and without typical tetany symptoms.

The examinations of the urine in various forms of tetany often shows marked disturbances of the metabolism, such as transitory acetoneuria, albuminuria and cylindruria. A permanent kidney lesion was not found in a single case of tetany, in spite of the presence of granular casts. He considers tetany a manifestation of an autointoxication, with a special affinity for the peripheral, nervous and muscular systems.

Pancreatitis Following Typhoid Fever.—MOYNIHAN (*Lancet*, June 6, 1903) reports the case of a boy thirteen years old, who made a very slow recovery from typhoid fever. During his convalescence he frequently complained of paroxysmal pains in the upper part of the abdomen. They began with nausea and vomiting, and lasted several hours. Three months later he began having periodical attacks of jaundice, which finally became very intense and did not disappear. A diagnosis of a typhoidal infection of the gall-bladder, with the possibility of gall-stones, was made and laparotomy recommended. The gall-bladder contained no stones. The cause of the icterus was found in the pancreas. The head and part of the body of the pancreas were greatly enlarged and very hard. The bacteriological examination of the bile showed a pure culture of typhoid bacilli. The Widal reaction was positive in a dilution of 1:100. Four weeks after the operation typhoid bacilli were still to be found in the secretion from the gall-bladder. Upon the use of large doses of urotropin the bacilli disappeared.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Two Cases of Ileo-Cecal Invagination in the Adult Cured by Operation.—ELGART (*Wiener Klinische Wochenschrift*, No. 32, 1903).—The etiology of this condition is very different in the adult from that which obtains in the infant. In the latter, toxines developing within the canal cause muscular contractions which seem to have something to do with the origin of the trouble; but in the former, tumors or diverticula by dragging at an attachment to the wall of the gut, cause an invagination. It is fortunate that it is now well known that an artificial anus does no good in these cases. Formerly, the operation was often done because it is so easy and of such short duration. Now, we consider it better to do absolutely nothing at all of a surgical nature when we have a patient in such a state of collapse that he can stand nothing more than an artificial anus. There are only two logical operative procedures for this condition: disinvagination with fixation of the limbs to prevent recurrence, and, second, resection. If the second plan is to be followed, it is simpler to resect the intussusceptum by making, first of all, a circular peritoneal suture, uniting healthy gut and intussusciens, then incising this latter and removing the two inner layers; after which a few sutures are placed through and through the divided ends. This is simpler and less lengthy than a complete resection, but can, of course, not be done unless the intussusciens is still in good condition at the time of operation.

The two cases here reported did well, one having been operated by each of the two methods proposed above.

The Surgical Cure of Facial Paralysis.—FAURE (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 28).—Here are analyzed all the cases in which nerve suture has been performed for this affliction. In some the peripheral portion of the facial has been attached to the hypoglossal, and in others to the spinal accessory; the latter procedure is considered the better by our author, though he admits that the principle of the operation is the same in either case. Twelve such operations have been done and with some degree of success in all, most of them being perfect recoveries. As might be expected, the best results are promised in the most recent cases, though it must be admitted that a perfect success crowned the efforts of one operator whose patient had been affected for eight years. The hypoglossal nerve has been preferred by some surgeons because the center for that nerve in the brain is near that for the facial; however, this does not really seem to be a matter of grave import, since equally good results have been accomplished both ways.

Struma with Metastases in the Bones.—DE GRAAG (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Bd. ix, Hft. 5).—The patient had had a swelling on the neck for eight years, which same gradually increased in size all the time; finally, spinal symptoms commenced and it was a comparatively short time before complete paralysis of the lower portion of the body ensued. At the autopsy a tumor mass was found to press upon the spinal marrow, being quite similar in its finer structure to the struma, which proved to be carcinomatous. The especially interesting thing about the secondary growths is that they contained gland follicles in which colloid had been produced in the typical manner. Thus it is seen that there were really gland metastases as well as being of cancerous nature.

The Present Status of the Surgery of the Stomach.—W. J. MAYO (*Northwestern Lancet*, Vol. xxiii, No. 14).—In going over the records of some 900 operations upon the organs contained within the upper part of the abdomen, this author, who has done such excellent abdominal surgery, came to many interesting conclusions. He notes a very close relationship between diseased conditions of the stomach, pancreas, duodenum and biliary passages; indeed, he is forced to the conclusion that disease of one of the above mentioned organs can only be regarded as a menace to all the others. Primarily it is usually the stomach or gall-bladder that is affected, and then the other two become impaired as a consequence. Nowhere in the body are more favorable circumstances for operation presented than in the stomach; but on the other hand the diagnosis presents difficulties which are often not to be overcome except by the explorative incision. In 80 per cent. of the cases a clinical diagnosis has been possible, and is considered by the author to be of prime importance; laboratory evidence, while never to be neglected, is regarded by him as corroboratory evidence. In fact he warns against waiting for the appearance of definite laboratory evidence, unless the internist is satisfied with sending to the surgeon a patient on whom nothing of a surgical nature is any longer possible.

Surgical diseases of the stomach are of two kinds: inflammatory (ulcer), and cancerous. Pain is the leading feature of ulcer, and a large majority of chronic cases are to be regarded as surgical cases if any good is to be hoped for. The effect of proper drainage of the stomach in these cases is too well known at present to deserve more than passing mention.

The Narcosis in Ileus.—KAUSCH (*Berliner Klinische Wochenschrift*, No. 33, 1903).—In these cases there is little to be done without a general anesthetic, since it causes terrible pain to exert any traction on the root of the mesentery. In only two classes of cases is it permissible to use local anesthesia, viz., where merely an artificial anus is to be made, or in cases of incarcerated hernia. The stomach can not be kept empty since the intestinal contents, especially in the Trendelenburg position, keep flowing in; hence the patient is sure to vomit in general narcosis, and runs the great danger of inspiring the foul stomach contents. Washing out the stomach and leaving the tube in place during the operation does no good, because the patient vomits around the tube, so it occurred to the writer to prevent this by the use of an apparatus which consists of a stomach tube surrounded, near its extremity, by a thin rubber ball which goes into the stomach and is then inflated from without, and when tight is withdrawn until it effectually blocks all the oesophageal outlet not filled by the stomach tube which it surrounds. Thus the patient can keep emptying his stomach through the tube, while nothing can escape around the same. Three cases which have been treated in this way suffered no ill effect from the anesthetic, and it was easy by massage of the intestine to empty it through the stomach, so that all the abdominal contents were relieved of the tension which had existed previously.

The Operative Treatment of Progressive Purulent Peritonitis.—WEBER (*Beitrage zur Klinischen Chirurgie*, Band xxxix, Heft 2).—There exists the greatest possible difference between the reported results of the different surgeons; this is accounted for by the fact that it is almost impossible to properly classify these cases. It is quite impossible that a patient should recover after the entire peritoneum has become once diseased, hence it is seen that the term "general peritonitis" is frequently used improperly. The best results have been attained in those cases where the operations have been performed early, something which will be found true in other departments of abdominal surgery. We have offered for our consideration here, the records of thirty-three such cases. The most difficult thing about the whole matter is to make a prognosis which has any real

value; some of the cases which are apparently the most favorable, die soonest, while others in which little hope was entertained, go on to perfect recovery. One of the worst symptoms is the well-known "euphorie," as the Germans call it. The peritonitis arising from appendicitis gives about the best prognosis of any, on account of the position of the organ, as well as upon account of there being a small amount of infecting material emptied into the cavity. The author's operative procedure is now the evisceration of everything necessary to the process and then the thorough sponging and drainage of the cavity with dry gauze. The good results attained are certainly convincing as to the correctness of the author's ideas.

A Contribution to "Exclusion" of the Intestine.—VAUTRIN (*Revue de Chirurgie*, No. 7, 1903).—This procedure of switching out a segment of gut which it is impossible to resect, has come to be highly valued in the treatment of inflammatory conditions. As soon as the fecal current is diverted, the relief of pain and other symptoms is usually immediate. It is also true that a tumor of the bowel will often decrease so much in size after this operation that it can be removed at a second sitting, though such a thing would have been impossible originally. Of course a fecal fistula can be successfully treated in this way, where suture of it or resection are not to be thought of. The author goes freely into the technique in all its different forms, but this is a matter too well known to deserve extended mention here. The records of three successful cases are submitted.

Penetrating Pistol and Stab Wounds of the Abdomen.—GEBELE (*Muenchener Medizinische Wochenschrift*, No. 33, 1903).—At the Munich clinic it is now the rule to dilate every wound of the abdominal wall in order that a laparotomy may be performed if it is found that the peritoneum has been wounded. This latter is done in every case where the cavity has been entered, whether there are symptoms of visceral injury or not. In view of the fact that symptoms of an internal injury are inconstant and often misleading, this can only be regarded as the safe course. The same conclusions cannot be drawn for this sort of work in private life as found to be of greatest value in war-time; at the same time it may be said that shock is no contra-indication to the performance of immediate operation. Chloroform is to be preferred to ether on account of the greater liability of pneumonia following the use of the latter drug. It is a well-known fact that pneumonia is a constant source of danger after surgical operations involving the viscera contained in the upper portion of the abdomen. Hence any sort of precaution tending to avoid this danger is welcome. The mortality in this class of injuries is constantly growing less at the Munich clinic, hence the powers that be seem disposed to follow the above mentioned course which has been productive of satisfactory results.

Operative Possibilities in Cases of Advanced Carcinoma of the Breast.—PILCHER (*Annals of Surgery*, September, 1903).—In many of Pilcher's cases the earliest evidences of disease consisted in the appearance of secondary gland nodules above the clavicle; hence he is encouraged to extend his procedures in that direction at the primary operation. It is difficult for the reviewer to reconcile this conclusion with the fact that he had the highest definite mortality in just those cases where he removed the cervical glands at the primary operation. Where the glands at the apex of the axilla are found to be markedly enlarged it is safe to assume that the cervical contents are diseased. After discussing the various appearances of carcinoma in this region, the author comes to the very logical conclusion that the surgeon actually never sees a cancer of the breast until it has reached what may properly be called an advanced stage. Some are, however, far advanced locally before they present symptoms of metastasis, and

these are of course the most favorable for operation. Pileher stands for the most thorough and complete possible extirpation of axillary and cervical contents in every case.

A Vesical Calculus Caught in One of the Sutures of a Bassini Operation.—NOSSAL (*Wiener Medizinische Wochenschrift*, No. 31, 1903).—The patient who forms the nucleus of this most interesting case history, had suffered from pain at urination for about a year, this having commenced shortly after he had been operated upon for inguinal hernia; a matter of importance in this connection when we learn more about the case. So grave were the symptoms that it was considered necessary to open the bladder, when to the surprise of all present, it was impossible to remove from the viscus a large stone which was in plain sight and which could be firmly grasped through the large wound. The reason for this was seen to be that the stone was attached to the bladder wall by a suture. The suture was cut and then no further trouble encountered. The whole thing was cleared up when the patient then related that his urine had been bloody for a few days after the hernia operation of a year before. The mechanics of the thing were simply as follows: one of the deep sutures had penetrated the bladder wall and around the portion of the thread which lay within the viscus there had formed a calculus, in the well-known way. (Certainly another argument for the absorbable suture.)

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Surgical Treatment of Rheumatic Fever.—J. O'CONNOR (*Lancet*, January 24, 1903).—The writer recommends for all cases of acute articular rheumatism that do not respond to the administration of salicylates, nor to the usual external and internal treatment, the surgical opening and drainage of the affected joints. He reports twenty such cases treated surgically. The results in all were strikingly favorable, both as regards the cure of the acute process and as regards the ultimate restoration of perfect function.

The Treatment of Tetanus by Means of Antitoxin.—V. SCHUEKMANN; FROTSCHER (*Deutsche Med. Wochenschr.*, 1903, No. 10).—The former writer was led by a case of tetanus that had a fatal ending in spite of the use of antitoxin, to look into the statistics of this procedure. His results were adverse to the efficiency of tetanus antitoxin once the disease has broken out. He urges that every case so treated, be the results good or bad, be published. Only so can a final estimate of the curative value of tetanus antitoxin be obtained. Frotscher, on the other hand, reports a severe case of traumatic tetanus, with a period of incubation of thirteen days, healed by the injection of antitoxin, together with a late excision of the wound. He expresses himself enthusiastically about the value of the treatment.

The Results of the Serum Treatment of Scarlet Fever in the Viennese University Clinic.—ESCHERICH (*Wiener Klin. Wochenschr.*, 1903, No. 23).—The writer's observations on the use of Moser's serum in scarlet fever have brought him to the conclusion that with the discovery of this serum we have reached a turning point in the treatment of the disease. No other treatment has shown anything like such uniformly good results, and none can claim to be considered so rational a procedure. Unfortunately, there are sometimes unpleasant after-effects, and

this together with the high price of the serum and the large doses that are still necessary, will, until a more perfect serum can be produced, confine its use to the most severe cases. Possibly the discovery of Moser's serum will eventually help to determine the etiologic agent of scarlet fever.

A Further Contribution to the Etiology and Specific Treatment of Hay Fever.—DUNBAR (*Deutsche Med. Wochenschr.*, 1903, No. 9).—Dunbar opposes the view that micro-organisms, in particular bacteria, are the exciting factor of hay-fever. He finds that although normal individuals cannot be given hay-fever, susceptible ones will respond to the administration of the pollen of various grasses by a typical attack of the disease. It is immaterial whether the pollen extract be applied locally or injected subcutaneously, and the same results are obtained in winter as during the regular hay-fever season. An antitoxin obtained by injecting pollen extract into animals produced, in his experiments, relief of the hay-fever symptoms, and often even a definite cure. If the antitoxin be added to the virulent pollen extract and the mixture be applied locally to the mucous membrane, or injected hypodermically, no effect was produced, showing that the antitoxin actually does neutralize the pollen toxine. Dunbar's work seems definitely to have established the pollen theory of hay-fever, and if his results are confirmed, his serum marks the greatest advance yet made in the treatment of this much dreaded disease.

Local Treatment.—C. BOUCHARD (*International Clinics*, 1903, vol. ii, 13th series).—The fact that local diseases can be cured by means of general medication induced the writer to make an effort to limit the action of the remedy to the part affected by injecting it into the diseased tissue itself. In cases of acute articular rheumatism, when six grammes (90 grains) of sodium salicylate are given, this medicament is probably pretty uniformly distributed throughout the body. Only a small portion of the drug, perhaps not more than five to ten milligrams, actually reaches each affected joint and exerts there its healing properties. In accordance with this view the writer treated acute articular rheumatism by the injection of extremely small doses of sodium salicylate into the diseased joints, with strikingly good results.

A patient suffering from rheumatism of the knee, with a chronic tendency, had been in bed for two months, and had in six weeks derived no benefit from the usual methods of treatment, general or local. An injection into the joint of ten centigrams of salicylate enabled him to get up the same day, and on the following day he was cured.

In a series of cases of acute polyarthritis, both with fever and without, the injection of five, ten or twenty centigrams of salicylate put a stop to the redness, pain, effusion and immobility; but this favorable effect occurred only in the joint that was treated. The other joints were not modified. New joints sometimes became inflamed, but this did not influence the joint that was getting well nor were they influenced by the latter. Any one joint may thus be cured while the others remain, or may become, inflamed. This proves that the minute doses injected locally have no general action and suggests the limitation as well as the value of this mode of treatment. There is, of course, nothing to prevent several joints from being treated simultaneously or in succession, and in case of relapse the treatment may be repeated.

The lightning pains of tabes and the pain of neuritis do not respond to salicylate injections. The writer found small doses of mercury and potassium iodide very efficient here. He injects 2 c.c. of a three or four per cent. of potassium iodide (stronger solutions cause considerable pain) and a very small amount of biniodide of mercury into the tissue about the seat of pain. His usual formula was:

Mercury biniodide,	0	01
Potassium iodide,	4	
Water,	100	

Sig.: Inject 2 c.c. locally.

This treatment was also very efficient in the obstinate late manifestations of syphilis. The injections, when made into gummata that had resisted vigorous constitutional treatment, or where specific treatment was poorly borne, were followed by rapid absorption of the lesion. Recurrences can, however, be prevented only by general treatment.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

About Immunization Against Tuberculosis.—F. NEUFELD (*Deutsch. Med. Woch.*, 1903, No. 37).—Under R. Koch's direction Neufeld has conducted experiments on a great number of goats, donkeys and cattle, the object of which was to immunize these animals against bovine tuberculosis by means of human tubercle bacilli. They were begun long before Behring published his results on cattle-immunization and achieved in a much simpler and shorter way the same purpose. It was possible to immunize a goat against a fatal dose of bovine bacilli in nineteen days. The method followed was the intravenous injection of small doses ($2\frac{1}{2}$ mg.) of living tubercle bacilli derived from the human organism. In no case a lasting infection with these bacilli occurred, although evidence was found at the autopsies that the human bacilli had at some time led to typical tuberculous lesions. After two or three injections (sometimes preceded by the inoculation of pulverized dead bacilli) an absolute immunity against the fatal dose of bovine bacilli could be demonstrated. Since 2.5 mg. of living bacilli represent a number of organisms, that under ordinary conditions never are present in a natural infection, the degree of immunity achieved can be estimated as very high. Aside from the immense importance of these results for the practice, they again have justified Koch's assertion of the difference of human and bovine bacilli. The reciproque test of bovine tuberculosis on human beings, of course, could not be made. One salient point that Neufeld's investigations have made very clear is that immunization against tuberculosis by means of bacillary products is impossible.

A Study of the Active Substances in Normal Serum.—L. REMY (*Ann. de l'Inst. Pasteur*, Vol. 17, No. 6).—This paper brings a very convincing and elegant confirmation of the existence of different complements in a normal serum. L. Remy found that the serum of rats, besides its bactericidal effect on anthrax-bacilli possesses similar qualities as to other micro-organisms. This quality is only partially destroyed by keeping the serum for half an hour at 55° C. That the remaining portion of this bacteriolytic effect is not due to other but complement action is shown in the following way: The heated serum is able to complement a specific bacteriolytic immune serum, for instance a cholera serum. But it is not possible to activate with the same serum an inactivated hemolytic serum that is easily activated by the unheated serum. The author concludes from these results that there exists in the rat serum a complement resistant to heat, similar to others of the same character described by Ehrlich. The consequence is that the bacteriolytic and hemolytic complement are different from each other. Remy has not succeeded in demonstrating a multiplicity of the bacteriolytic or hemolytic complements.

The Antitoxic Tetanus-Therapy.—E. V. BEHRING (*Deutsche Medic. Wochenschr.*, 1903, No. 35).—The opinion of Behring on the different phenomena of tetanus-intoxication and detoxication and on the antitoxic-therapy is given here

in an interesting form. The tetanus toxin, if applied subcutaneously, makes its way in part from the nerve-endings along the axis-cylinders to the ganglionic cells of the spine and medulla. Partly it enters the blood and reaches secondarily from it the nerve-endings, and later the central cells. It is a mistake to believe that only the motor cells possess affinities to the toxin; the latter are found just as well in the sensory and sympathetic cells, a fact that lately has been established also by Morax and Marie. The antibody of the serum, that is therapeutically concerned, has no bacteriocidal, but only antitoxic qualities; tetanus-bacilli grow in the antitoxic serum. In other words, the antitoxin does not exert any influence on the body-cells, but only on the carrier of the toxin. A new idea is introduced by Behring by the assumption that the inactivation of the toxin is not brought about only by the antitoxin, but that for this phenomenon the presence of a third, unstable substance, the "conductor," is necessary. Its function is to establish the contact between toxin and antitoxin. In the determination of the therapeutic value of a serum this factor is said to be very important. The paper concludes with directions for the use of tetanus-antitoxin, of which one point may be mentioned as suggestive, the local application of the serum in fluid or dried form. As will be remembered, the same method has lately been used in diphtheria.

Histology and Histogenesis of the Corpus Luteum and the Interstitial Ovarian Tissues.—FRANZ COHN (*Archiv fuer Mikrosk. Anat. u. Entwickel. Gesch.*, Vol. 62, Heft 4).—The theories lately promulgated by Born and L. Fraenkel, dealing with the corpus luteum as a secreting gland, influencing the insertion of the ovum, find a certain confirmation by this investigation, that was conducted on the ovaries of rabbits, obtained at different times after the coitus. The results of this study group themselves under the following points:

The lutein cells are formed by the epithelial cells of the granulosa by hypertrophy, not by hyperplasia. The hypertrophy is due alone to an increase of the mass of the protoplasm; the nuclei show only at the time of the rupture of the follicle, an enlargement to double the original size. In the rabbit the acme of increase in size of the lutein cells occurs on the eighth day, the time of the insertion of the ovum in the uterus. Within the lutein cells an accumulation of secretory products in form of fine droplets is observed. From the theca the connective tissue grows in between the masses of lutein cells and surrounds the single cells, forming in these septa a capillary network that communicates with the vessels of the theca. This network is fully developed at the time of egg-insertion. All this seems to prove that Born's opinion of the corpus luteum as a gland with internal secretion is correct. The interstitial ovarian tissue differs from the lutein cells by smaller size of the cells and by a less developed capillary system. In its cells, also, products of secretion can be demonstrated. The interstitial tissue arises from the proliferating thecae of atretic follicles.

Contribution to the Bacteriology of Yellow Fever.—IVO BANDI (*Centralb. f. Bacter. Orig.*, Bd. 4, No. 5).—In this paper the author fights a valiant battle for Sanarelli's bacillus. While in this country the subject of the bacillus icteroides has been long since laid ad acta, it appears to us as an anachronism to see at the present time some observer spend an enormous amount of work and study on it. Bandi has done this, and claims that the bacillus can always be demonstrated in cases of yellow fever and that it is not found anywhere else. The absence of agglutination reaction on contact of the bacillus with the patient's serum is explained by referring to absence of such a reaction in tetanus and diphtheria. Similar means of defense are used throughout the paper. Reed and Carroll's discoveries are eliminated by the assertion that besides yellow fever there are two other tropical diseases, the febris biliosa gravis and the icterus gravis, that sometimes resemble the first and, therefore, may be mistaken for it. Should we have lost Lazear by such a disease? The paper is not an ornament to one of the highest standing scientific journals of Germany.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

On the Activity of the Milk Glands. Indications and Contraindications of Breast Feeding.—A. SCHLOSSMANN (*Monatschr. f. Geb. und Gyn.* Band XVII, Heft 6.)—At present it seems to be the general consensus of opinion among physicians that, whenever possible, the mother should nurse her baby. Some authorities, however, see an absolute contraindication against nursing in tuberculosis of the mother. The first part of Schlossmann's paper is devoted to an interesting critic of this contraindication which the author refuses to accept as such.

The danger of a tubercular infection of the child by means of bacilli contained in the breast milk is exceedingly small. The typical mode of infection is that of contact. In order to avoid such infection it would be necessary to immediately separate the newborn from its tuberculous parents, a thing that cannot be carried out in practice. Breast feeding does not increase the danger from contact infection, but certainly makes the child more resistant against any infection, because it guarantees a better development of the child in its first days of life. There is no actual proof for the view entertained by some writers that nursing is harmful to tuberculous mothers. Schlossmann is inclined to believe that just the opposite holds good, since it is an every-day experience that mothers who nurse their babies flourish and grow stout. Nursing produces in this way exactly the effect that we try to obtain in tuberculous patients by means of overfeeding. The author does not believe that nursing should be permitted in every case of tuberculosis. He thinks, however, that tuberculosis should no longer be considered an absolute contraindication against nursing.

Quite different, of course, is the question whether a tuberculous woman should be permitted to nurse another mother's baby. Here the answer must be in the negative. The author emphasizes the carelessness with which wet-nurses usually are selected, and urges the use of a tuberculin injection for diagnostic purposes in every case. Out of forty-nine wet-nurses examined in this way thirteen gave a positive reaction, although their histories did not suggest the possibility of their being tuberculous.

The second part of the paper contains a great amount of very interesting observations made by the author regarding the function of the milk glands. We will record a few of them. During an acute mastitis, even with formation of an abscess, the function of the glands can be preserved for a long time by a systematic application of the breast pump every three hours. In the same way a normal function of the glands can be obtained in cases where the child for certain reasons (e. g., premature birth) begins to nurse several weeks after confinement. The amount of milk in certain cases is enormous, without any harm to the mothers. Thus a wet-nurse, employed by the author, furnished during the twenty-five months following her confinement an average of 2000 grams a day, that is a total of 816 liters. She was employed in the author's nurslings home and saved, in his estimation, the lives of about twenty children. At the time when she entered the home her weight was fifty-nine kilograms; when she left, it was seventy-eight. Careful observations have shown that in this time the quality of the milk had but slightly changed, the amount of fat and sugar remaining almost stationary, and the amount of proteids diminished. In cases of deficient secretion often a satisfactory flow of milk can be obtained by simply permitting a stronger child to suck. The author disapproves of all special foods for a nursing woman. She is permitted to eat whatever will agree with her. Nothing is more dangerous than to force disagreeable food upon a nurse; it will necessarily lead to a decrease of appetite, a very undesirable effect. Of

greatest importance is regularity in nursing. A normal child is permitted to nurse five to six times in twenty-four hours, never longer than ten minutes at the time. During the night the nurse and the child shall have undisturbed rest for eight to ten hours.

No artificial food ranks with normal human milk.

The Excretion of Urea and Eclampsia.—DAVID L. EDSALL (*Am. Jour. of Obst.* July, 1903, p. 107.)—In discussing a paper of Dr. Norris before the College of Physicians of Philadelphia the writer emphasizes that the examination of the urine for urea as an indication for the possible onset of eclampsia or of renal disturbance is extremely unsatisfactory and unscientific. One fact that is commonly overlooked by practitioners in general is that the excretion of urea is far more dependent upon the amount of nitrogenous food that the patient takes than it is upon any other factor; the urea excretion is of no diagnostic value, unless the amount of nitrogenous food that the patient takes is known. There is another fact that makes the determination of the amount of urea in the urine valueless, a fact which is well established both by commonsense and careful investigation, namely, that a woman in late pregnancy retains nitrogen. She naturally must do so, in order to provide tissue for the growing fetus.

Prophylaxis and Therapy of Puerperal Fever.—H. FEHLING (*Muenchener Med. Wochenschr.*, August 18, 1903.)—Cases of puerperal infection are by no means so infrequent as they ought to be. During the last ten years in the Obstetrical Clinic of Strassburg three hundred and seventy-seven cases were treated with a total mortality of 17.7 per cent. In just one-fourth of the patients obstetrical operations of some kind had been performed, and this class of patients showed a mortality of 29 per cent. while the mortality of patients infected during or after spontaneous labor was but 11 per cent. One of the most striking features of these statistics is the fact that among the obstetrical operations performed on these patients, manual extraction of the placenta takes the first place (47 per cent.). The most common and most dangerous form of infection is pyemia; almost 39 per cent. of the patients who succumbed to the infection died of pyemia, and in every case of pyemia that was observed the issue was fatal. These figures show convincingly the immense danger of manual removal of the placenta, an operation altogether too popular with the general practitioner. While the records of the maternity show a percentage of but one-half of one per cent. as for the frequency of this operation in sixteen hundred confinements, the official health reports of the Dukedom of Baden place the percentage in general practice as 2 per cent. A proper management of labor reduces the necessity for this dangerous interference. Expression after the mode of Crede under chloroform must be tried before the manual extraction is resorted to. If the operation is unavoidable, vulva and vagina have to be scrupulously disinfected.

The article exhibits the author's views on the use of rubber gloves in obstetrical work. He believes that they cannot be used for most of the obstetrical operations and he, therefore, emphasizes the necessity of the obstetrician avoiding contamination of his hands by the use of rubber gloves in gynecological work and in handling infected cases.

As regards the therapy of puerperal infection, he saw some encouraging results with the use of a 2 per cent solution of argentic colloidal, ten to twenty cubic centimeters being injected into a vein once a day, if necessary, eight to ten days in succession.

Disadvantages of the Trendelenburg Position.—K. FRANZ (*Centralbl. f. Gyn.*, August 8, 1903.)—Considering the fact that the Trendelenburg position is at present almost generally used for operations in the lower abdomen, it is of no little interest to note that surgeons are beginning to point out the disadvantages

of this position. Kraske, in a paper read before the last Congress of German Surgeons, referred to paresis of the N. tibialis ant., to sudden emphysema of the abdominal walls, to very serious disturbances in the circulation, to occlusion of the intestines by the formation of a volvulus, to hematemesis, to aspiration of stomach contents into the air passages, as due to the elevated pelvic position. Several cases of hemorrhages in the brain are on record following operations performed in this position.

This paper of Franz deals in detail with the effect of the Trendelenburg position upon the breathing of the anesthetized patient. He bases his conclusions upon comparison of curves of pulse and respiration produced with the sphygmograph and kymograph, respectively, both upon anesthetized and non-anesthetized individuals. He observed that in Trendelenburg position the abdominal action in breathing is lessened to a considerable degree in every instance, while the thoracic respiration in compensation is but slightly or not at all increased. It is safe to say that the elevated pelvic position in a great number of cases interferes with the proper ventilation of the lungs during anesthesia. This lack of the necessary amount of oxygen may prove harmful to the general condition of the patient and probably shows its effect first of all upon the central nervous system.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

On the Persistence of Diphtheria Bacilli in Convalescents and Their Presence in Healthy Subjects Brought in Contact with Diphtheria.—DOURCART (*Rev. Mens. des Mal. de l'Enf.*, September, 1903) summarizes his studies of the literature and his own observation as follows:

1. The Klebs-Loeffler bacillus is found in the mouths of persons who have not recently had diphtheria, but this is very exceptional. Even when the mouths and noses of healthy persons (who have been living in contact with diphtheries) are examined, it is very exceptional to find bacilli. This is particularly true for adults. In children bacilli are sometimes found.

2. In cases of diphtheria treated by antitoxin, the Klebs-Loeffler bacillus disappears with the membrane in 65 per cent. of the cases. In 20 per cent. of the cases, the bacillus persists for several days, in 15 per cent. it persists longer. There is no doubt that in exceptional cases, it may persist for several months.

3. It appears that when the bacillus persists after the disappearance of the membrane that it assumes various atypical forms, which are generally less virulent than the typical forms.

Infections of the New Born.—HAMILL AND NICHOLSON (*Archives of Pediatrics*, September, 1903) report a series of carefully observed cases of infections of the new born. They do not think that the present classification of these conditions is a good one. All the clinical manifestations described under the headings of melæna, hemorrhagic disease of the new born, hæmophilia neonatorum, Buhl's disease and Winkel's disease may exist as evidence of any one of a number of infections, the nature and severity thereof depending upon the virulence of the organism and the degree of individual resistance. Any classification to-day must therefore be bacteriological. It is noteworthy, however, that in six recorded cases, six different micro-organisms were isolated at autopsy, viz., *B. pyocyaneus*, *B. lactis aerogenes*, colon bacillus, staphylococcus aureus, *B. coli immobilis* and a streptococcus. The literature contains instances of infection by many other organisms.

These infections occur most often in maternity hospitals—not infrequently epidemically. While air infections may occur, the actual infection is probably more often carried by the clothing and hands of attendants, the stools and buccal secretions of patients, the bed clothing and infants' napkins.

Regarding the ports of entry, the authors believe that the buccal cavity, tonsils, pharynx and gastro-intestinal tract are the most common, and they think that the cord has been given too much prominence in this connection.

The post mortem appearances may be summed up in the words congestion and hemorrhage, which, however, may vary greatly in different cases. There is, however, nearly always congestion of spleen, liver, kidneys, suprarenals, mesenteric lymph nodes, stomach and intestines. There may be hemorrhages in any of these organs and bloody effusions into the serous cavities are frequent. The lungs show various degrees of congestion or atelectasis and hemorrhagic infants are common.

Histologically the principle changes are those commonly found in infectious conditions, cloudy swelling, fatty degeneration and infiltration.

The symptoms usually come on during the first week of life. Among the more important are fever (100 to 108° F.), diarrhoea, icterus and skin eruptions of all varieties, petechial ecchymosis, bullæ, erythemata, etc. A common form is a papulo-vesicular eruption involving face, neck, shoulders and flexor surfaces of the arms.

Hemorrhages from skin, cord, eyes, ears, nose, mouth, bladder, bowels are common. Apathy is extreme, emaciation rapid. The nervous phenomena are varied, consisting, however, mainly of different types of convulsion.

The diagnosis is ordinarily not difficult, the prognosis, unfortunately, distinctly bad, particularly in institutions.

Treatment must be almost wholly directed to prophylaxis. The authors give minute directions as to the handling of infants, and the care that attendants should take to prevent their carrying infection.

Delestre has seen excellent results in these cases from bleeding, substituting saline solution for the fluid removed. The authors have had no experience with this method, however.

The Reduction in Infant Mortality in New York and the Agencies Which Have Been Instrumental in Bringing it About.—FREEMAN (*Medical News*, September 5, 1903) has prepared a most interesting set of charts and tables, showing that the infant mortality has fallen from 242 to 158 per 100,000 in the last ten years—the average infant mortality in the United States being 159 per 100,000 in 1900. The original article should be consulted for the details, but the following conclusions of the author may be cited here:

1. The shockingly high infant mortality of all countries is avoidable, as is evidenced by the fact that well cared for infants show a very low rate.

2. As the active cause of the mortality, defective feeding, stands pre-eminent—heat, humidity and bad hygienic conditions are contributory causes.

3. The marked decline in infant mortality in the United States, and especially in New York City, is due for the most part to the decline in mortality from summer diarrhoea.

4. This is due primarily to the improvement in the milk supply, and the general adoption of pasteurization, or sterilization of this product.

5. Other agencies in New York City are the improved city administration, the milk inspection of the department of health, the Straus milk charity (the furnishing of pure milk at less than cost to the poor), the fresh-air work of the St. John Guild and similar associations, cleaner streets and asphalt pavements, the new small parks, play grounds and recreation piers, the improved tenements and the use of diphtheria antitoxin.

Disturbances of Respiration in the New Born.—WILSON (*Archives of Pediatrics*, September, 1903) reviews the special causes of failure of respiration in the new born. Among the rarer causes may be mentioned traumatic effects, *e. g.*, pressure from intracranial hemorrhage. Recurring respiratory failure of bulbar origin (the result of infection) has also been noted.

More common are the failures from toxic causes, the result of alimentary disturbances. Sudden syncope with respiratory failure, with cyanosis and coldness of extremities, often associated with fever are often dependent upon gastro-intestinal derangement and relieved by appropriate medication.

Dyspnœa. Congenital cardiac lesions produce a constant dyspnœa with cyanosis. Pneumonia produces marked dyspnœa, so, too, congenital atelectasis.

Stenotic dyspnœa may be due to congenital stenosis of the larynx, or to membranous (streptococcic) inflammation of the larynx. The thymic origin of dyspnœa is not of great importance, although in older children it is more frequent (status lymphaticus.)

Where there are no signs of intrathoracic trouble, the possibility of dyspeptic dyspnœa must be borne in mind. This dyspnœa is purely toxic and has nothing to do with intra-abdominal pressure. The diagnosis is to be made by the presence of the syndrome of gastro-intestinal disturbance.

A rare cause of dyspnœa is diaphragmatic hernia, the diagnosis of which *intra vitam* is exceedingly difficult. In contradistinction to dyspnœa, rapidity of respiration is often found, *e. g.*, in dyspeptic or febrile conditions, in bronchitis or pneumonia. In systemic septic infection it is nearly always present, and may be (as in a case reported by the author) one of the early symptoms of this condition.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Some Observations on the Treatment of Neurasthenia at the Dispensary Clinic.—MACCOY (*Brooklyn Med. Jour.*, September, 1903).—In dispensary practice the distinction between neurasthenia and hysteria cannot always be made, but it is very essential that hysteria, hypochondria, and neurasthenia should be differentiated if any therapeutic success is to be hoped for. The author takes as his starting point for neurasthenia the recognition of the fatigue symptom. This may be either mental, motor or sensory. This symptom has sometimes been called irritable weakness and in it is the phenomenon of exhaustion appearing after an inadequate degree of muscular effort. Mental sluggishness, loss of interest in occupation and dread to assume responsibilities, tremor, muscular weakness, palpitation of the heart following slight exertion, sensory paresthesias, headache, pressure bands, etc., etc., are the usual symptoms met with. Most cases show a very marked improvement under modifications of diet, bathing, and small doses of bromide. This article is chiefly of value because it puts in a very clear way the distinction that can be made between the different neuroses that are met with in a dispensary practice.

Trigeminin—A Sedative and Analgesic—OVERLACH (*Berlin Klin. Woch.*, August 31, 1903).—This new preparation is a synthetical compound produced by the action of butyl chloral hydrate upon pyramidon. It forms long white crystals easily soluble in water. Trigeminin, like its derivative, does not produce sleep except in large doses, but it has an almost specific action upon the

painful affections of the cranial nerves. In therapeutic doses it appears to have no effect upon the heart. Twenty cases of various kinds of painful affection, especially of the trigeminal, are given by the author, in which trigeminin was of value. The dose for adults is between 0.5 and 1.2 grams, grains 7 to 20.

A Consideration of the Hereditary Factors in Epilepsy.—R. E. DORAN (*Am. Jour. of Insan.* No. 1, 1903).—The first 1300 patients admitted to the Craig Colony for Epileptics were studied by Doran with the view of ascertaining to what degree the various hereditary factors have acted. The results: (1) That though it was impossible to secure data in many cases, yet a definite history of the various neuroses or alcoholism was found in 46.5 per cent. of the total. (2) Alcoholism, epilepsy and insanity combined were responsible for 38.6 per cent. of the total cases. (3) The paternal alcoholism existed in 18 per cent. of all cases. (4) Diseases other than these connected with the nervous system have little hereditary influence in epilepsy. (5) The age of onset is influenced by the character of heredity.

Results of Brain Surgery in Epilepsy and Congenital Mental Defects.—SPRATLING (*Am. Jour. of Insan.*, No. 1, 1903).—This is a timely article on a subject which is of the greatest interest. Epilepsy has become such a comprehensive term that the special type in question must always be specified. It is the careless use of the term which has led to the confusion which is apparent when the results of surgical treatment are considered. The author lays down this fundamental rule: The epilepsies which most seriously impair the conscious operations of the mind are less amenable to treatment by the surgeon than the epilepsies that leave the mind most largely unaffected. The epilepsies which are accompanied by motor symptoms are the only ones which naturally might be expected to show results from surgical interference. Purely psychical forms are not amenable to this method of treatment. As the former comprise by far the larger proportion of cases, the possible material for surgical intervention is large, as much as 60 per cent. Among this 60 per cent., however, only a very small proportion will benefit by surgery. Thirty-three cases which have been under the author's observation from one to eight years are described and the following results noted: Twenty of the thirty-three were due to trauma of the head. The average duration of the epilepsy approximated five and one-half years. In twenty-one no improvement of the disease, either temporary or permanent, resulted. In eight the attacks were lessened in frequency and in severity, the operation being a part of the treatment only. In three the disease was much worse after the operation. In one there was apparent recovery. It is worthy of notice that the mortality from the operation was *nil*. As dismal as is the result in epilepsy, it is more so in idiocy and in imbecility. Eighty-three cases show the following: Twenty-four per cent. died, sixty-five per cent. unimproved, and ten and one-half per cent. improved. The only improvement noted in the ten and one-half per cent. was that the patient was quieter. The fact that such operations are so few as compared to what they were ten years ago is the strongest argument against the utility of the operation in the majority of cases. Surgical interference may still be used in isolated cases of idiocy, but it seems clear that its usefulness is very restricted.

The Relation of Bulbar Paralysis and Progressive Muscular Atrophy.—TAYLOR (*Rev. of Neurolog. and Psychiatry*, No. 9, 1903).—Taylor, in a short article consisting of several case reports, calls attention to the degeneration of the lower motor neurones supplying the limbs in cases of bulbar palsy. This is more commonly observed in cases where both the upper and the lower neurones are involved, as in amyotrophic lateral sclerosis. As a rule, the involvement of the extremities precedes the bulbar symptoms, but in many cases the bulbar palsy

leads to the death of the individual too soon for the atrophy of the limbs to become apparent. The cases quoted in the article illustrate the relation of bulbar palsy, muscular atrophy and amyotrophic paralysis and point to the conclusion that all of them are different phases of the same fundamental disease.

Arguments in Favor of the Existence of a Separate Center for Writing.—GORDINIER (*Am. Jour. of Med. Sci.*, July, 1903).—Gordinier reports a very interesting case of brain tumor, which appears to prove the existence of a special center for writing. According to Dejerine and Collins, the ideal case to prove the existence of a center whose function is to store graphic images and whose destruction would cause agraphia, would be one in which there was inability to write spontaneously and from dictation, and in which no disturbance of motility, particularly no disturbance of the right upper extremity, no aphasia, no alexia, no verbal deafness and no verbal blindness existed.

CASE.—Intelligent woman, age thirty-five years; headache, vertigo and gradually failing vision; no disturbance in speech. Optic neuritis of both eyes; no paralysis or atrophy of extremities. Recognition and names of objects perfect; speech normal. Total inability to write, although she understands perfectly written language and can read to herself aloud. She cannot write voluntarily nor form correctly a single letter, and cannot write from dictation or copy. She holds the pen in a perfect manner, and performs with it as if to write. Her writing consists of nothing more than a series of united curves. The diagnosis of brain tumor was made, and an operation performed, from which she died. Post-mortem showed a rapidly growing glioma occupying the foot of the second frontal convolution. The case seems to prove the existence of a separate and distinct cortical center for writing, having the same relation to writing movements as the motor speech center has to speech movements. This center is located at the base of the second left frontal convolution for the right handed, and possibly in the same location in the right hemisphere for the left handed. Destruction of this center produces pure motor agraphia without aphasia or paralysis of either arm.

GENITO-URINARY SURGERY

IN CHARGE OF

H. McC. JOHNSON, M. D.

Catheterization of the Ureters.—KEEFE (*The Providence Med. Jour.*, September, 1903).—After discussing the method and instruments for this operation, and reporting his cases, the author says that there were seventy-five cases in which the ureters were catheterized. In forty-two of these cases 191 examinations of the urine were made subsequent to the passage of the catheters. In three cases the examinations showed no change in the urinary constituents following the passage of the ureteral catheter. The other cases showed blood and a trace of albumen, which was transitory, found in some cases but in a single examination, and in others over a period of ten days, in every instance finally being absent. Some of the blood was due to blood coming from an over-stretched urethra, and the albumen present in these cases may have been due to the presence of the blood. In thirteen cases hyaline casts were found, and in one of these cases the hyaline casts were present before the ureteral catheterization. In six cases there were found hyaline and granular casts subsequent to the passage of the ureteral catheter, and in one of these cases the casts were present before the ureteral catheters were passed. The patient showed no other evidence of disturbance of the kidney than that shown by the examinations of the

urine. He is led to believe that with care in the passage of a ureteral catheter no injury to the patient is likely to ensue.

He is convinced that the day is not far distant when the surgeon will use the cystoscope in urinary diseases as frequently as the ophthalmologist uses the ophthalmoscope in affections of the eyes.

Nephropexy in a Case of Chronic Nephritis.—HENRY (*Amer. J. Med. Sciences*, September, 1903).—The case seemed to be one suitable for decapsulation of the kidneys. He was young, still strong, and the expectation of life was some six months or a year, as far as could be judged. The operation failed to be of use and unquestionably hastened death, the result of pain, exhaustion and disturbance of the kidneys. The patient lived eight days, and following the operation there was severe pain with a marked falling off of the amount of urine and urea.

The Significance of Albumin and Casts in Surgical Patients.—MUNRO (*Med. News*, September 12, 1903).—The question of operating in the presence of albumin and casts, and the presence of these indications of renal disturbance in recent surgical patients at the Boston City Hospital, are considered by the writer. He concludes by saying that we should expect evidence of renal irritation in over a third of the surgical patients found in a municipal hospital. The mere presence of a trace of albumin, with or without hyaline and granular casts, unattended by other evidence of renal danger, should not influence the prognosis in surgical disease or operation. The presence, however, of albumin and casts should place us on the watch for other and more significant signs of organic degeneration which may prove serious obstacles to operation or satisfactory convalescence. Furthermore, albumin and casts alone are apparently no contra-indication to the administration of ether. The age at which we must expect albumin and casts in surgical patients is under thirty-five years in over half the cases. The proportion in young and otherwise healthy children is probably as great as in adults.

The Suprapubic Operation for the Radical Cure of Varicocele, with the Report of Eighteen Cases.—THORNBURGH (*Medical Record*, August 29, 1903).—Attention is called to the advantages of this operation for varicocele and thirty-three cases with good results are reported. The author gives the following technique:

After proper sterilization of the operative field, the finger of the operator is introduced into the external ring and a nick made with the knife directly over the tip of the finger. With this nick as a landmark an incision 3 cm. long is made, parallel to Poupart's ligament. The deep fascia is cut through with the knife, and then a little blunt dissection brings the cord to view. No blood vessels of any moment are encountered, oozing being checked by hot, normal salt solution. The sheath of the cord is picked up between mouse-tooth forceps and torn open. The finger of the operator is introduced and the whole cord easily raised from its bed and brought out of the wound. The vas is recognized by its white appearance and cord-like feel, and is separated from the rest of the cord downward to within an inch of the testis. The testis can readily be brought into view by gentle traction on the cord. The vas is separated from the vessels for about 6 or 7 cm. in an upward direction also. The vessels are tied with No. 3 cumolized catgut ligatures, the vessels between them (5 to 6 cm.) excised, the stumps inspected for oozing, the ends approximated and the ligatures tied to each other, thus forming a support for the testis. The cord and vas are dropped into the bottom of the wound and the wound closed by continuous retention and approximation sutures, No. 1 cumolized catgut being employed.

A Prostatic Tractor for Perineal Prostatectomy.—LYDSTON (*Ann. Surg.*, September, 1903).—Finding a tractor of some kind necessary in quite a proportion

of cases of prostatectomy, Lydston has devised such a one as may be introduced closed into the bladder through an opening in the membranous urethra. It is opened in the bladder cavity by the finger through the perineal wound. After completing the operation a finger is introduced into the bladder, the retractor closed and removed.

Abnormal Frequency of Urination Treated with Epidural Injections.—VALENTINE (*Med. Rec.*, September 26, 1903).—Eight cases are reported in which epidural injections, as advocated by Cathelin, were given for urinary incontinence. The results were good. The methods of the procedure are given and the following deductions drawn:

1. That epidural injections with decinormal salt solution offer the most promising results in abnormalities of urination due to faulty vesical innervation.
2. That incontinence of urine, enuresis, excessive frequency of urination (unless due to other pathological conditions), can at least be ameliorated by epidural injections.
3. That, cautiously performed, epidural injections are in nowise dangerous to the patient.
4. Epidural injections are no more painful than any hypodermatic injection with a mild solution.
5. Epidural injections can be performed by any one who follows the technique outlined and is alert to those anatomical variations which are so frequent in the region.
6. The immediate effects of epidural injections are very rarely even disagreeable.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Adenoma Sebace Circonscrit.—CH. AUDRY (*Annales de Dermatologie et de Syphiligraphie*, July, 1903).—After a thorough discussion of the subject the author gives, *en resume*, the following conclusions:

Clinically: adenoma sebace circonscrit is not a tumor, properly speaking, but a superficial lesion of the integument procured by the agglomeration of more or less of projecting papules disposed in groups. The dimensions vary from one to eight centimeters.

The form of these groups is indeterminate—linear, ellipsoidal, quadrangular, etc. Their color is variable—red, brown, yellow. Their surface is uneven, indurated, ridged, according to the elevations of which they are composed. The orifices at the summit are obstructed by the scales and adherent debris, and obtrude under the pressure of the sebaceous matter. The consistency is altogether firm or flabby. The epidermis is smooth. The groups are notably circumscribed, sharply defined from the healthy integument. There are no nevi or telangiectases.

In all the author's cases the plaques or groups were unique and occupied a point on the head, forehead, temple, nose or cheek. There is no pain or itching. The disease progresses slowly but surely, requiring many years to acquire a small dimension. The writer does not know of any instance of the plaques' ulcerating, yet they are liable to infection. All the author's cases were men. The disease may appear at any age, but it is most frequent in adults.

Histologically: the plaques are formed of a greater or less number of sebaceous glands which are enlarged or hypertrophied. These glands have their

normal structure and formation, and are independent of the pilos follicles which seem to have disappeared. The follicles of the glands are dilated, and often form cysts.

The epidermis is normal, also the neighboring connective tissue. The lesion, in short, is a neoplasm, slowly progressive, of variable origin and intermediate cause. The evolution of the disease is characterized by disposition in plaques. It is an adenoma and not a simple hypertrophy. Without a doubt, a certain number of cases begin in infancy and manifest themselves at puberty. The writer thinks these lesions should be classed with nevi in general, and especially with nevi sebaces. The treatment is extirpation.

A New Case of Cure of Tuberculosis of the Skin by a Solution of Potassium Permanganate.—MM. HALLOPEAU et LAFFITTE (*Annales de Dermatologie et de Syphiligraphie*, July, 1903).—This is the fourth case to be presented by these gentlemen to the French Society of Dermatology and Syphilis, notably improved by the local use of a solution of permanganate of potash. This patient had a tuberculous ulceration which extended almost over the whole of the back of the hand, which in six weeks has almost cicatrized. The reporters know of no other method which would give such results in so short a time. The other three cases, lupus of the face, have been cured in eleven months, six months, and six weeks, respectively.

Epithelioma of the Nose, Colloidal Cancer of the Stomach, with Visceral Metastases and Miliary Colloidal Nodes of the Peritoneum.—MM. GAUCHER, GASTON et WEILL (*Annales de Dermatologie et de Syphiligraphie*, July, 1903).—The interest of this case is the preliminary appearance of an epithelioma to the visceral involvement noted in the title of the paper. The disease began from a traumatism on the nose, which produced a small lesion which in time ulcerated. This ulceration increased in depth and circumference, destroying most of the cartilage and the subjacent osseous tissue. It was diagnosed epithelioma. Anti-syphilitic treatment was given without avail for two months. There was no cervical aderopathy. Autopsy showed the peritoneum studded with small, pea-sized nodules, and a mass in the stomach the size of a fetal head. All of these had undergone colloidal degeneration.

A Case of Muro-Fibromatosis (Von Recklinghausen's Disease), with Paralysis and Muscular Atrophy.—H. H. THOMAS, M. D. (*Johns Hopkins Bulletin*, August, 1903).—The remarkable feature of this case is the association of the paralytic symptoms; and the question, in the writer's opinion, is whether these symptoms can be due to analogous growths in some other part of the nervous system. It is well known that tumors of the nervi trunks are common in association with neuro-fibromata of the skin.

This case was a single woman, fifty-seven years old, with good heredity and nothing in her history of importance. Tumors of her skin have been present since early childhood, but have increased markedly in the last years. For five years she has suffered from sharp, stinging pains in her feet and legs. Weakness of the legs made its appearance with the pains, and has gradually increased. For two years she has had great difficulty in getting about, and for the last year she has been unable to walk. Her arms have also become weak. Muscular twitchings have been noticed since the beginning of the weakness. Some weakness of the bladder. The patient is covered with innumerable skin tumors, splotches of pigmentation, and here and there bluish areas of skin. She is apathetic and dull; speaks in a thick, muffled voice. The case is very typical of fibroma molluscum. The tumors are outgrowths of the connective tissue, sheaths of the cutaneous nerves, and are often associated with similar growths from other nerves, forming a condition generally called diffuse or generalized neuro-fibromatosis, or von Recklinghausen's disease.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

On the Present Status of Our Knowledge of Vincent's Angina.—CONRAD (*Archiv fuer Laryngologie und Rhinologie*, Band 14, Heft 3).—After giving a short review of the literature on Vincent's angina from the time of Vincent's first publication in 1897 to the present time, the author carefully notes the symptoms and the course of the disease. He states that it manifests itself as a grayish-white pseudo-membrane similar to the diphtheritic membrane, usually confined to one tonsil. This exudate is soft, soggy and frequently tenacious. The edge is irregular and surrounded by a very red zone. At the beginning this membrane can be easily removed, leaving a bleeding surface; the following day it will have reformed, showing the same picture. The membrane continues to spread itself over the entire tonsil, which is usually very much swollen, and may extend to the soft palate and uvula. The above is the picture of the first or membranous form of the disease. The second form or second stage is the ulcero-membranous. Here there is a necrosis with ulceration which is often looked upon as a chancre. At times the ulcer is flat, the base somewhat hardened and surrounded by an inflammatory area. After removing the covering of the ulcer many bleeding points will be seen.

With the above local manifestations there are also, as with other forms of angina, disturbances, such as pain on swallowing, fever as high as 104°, enlargement of the submaxillary and cervical glands, foul breath and coated tongue. This disease may run a very mild course with scarcely any local manifestations or it may be quite severe, having extensive ulcerations.

Two forms of bacteria are given as the direct cause. They are bacilli which are from 10 to 12 μ in length and 0.5 μ in width, which are somewhat thickened in the middle, having the appearance of a spindle. At times the bacilli are short and comma-shaped, and others as threads, but they can be recognized by their pointed ends and granular protoplasm. The bacilli are very numerous at the beginning of the disease and all forms may be present at the same time. Thiosin and carbol-fuchsin are the stains recommended by Vincent. It can also be stained by Gram's method, but gives up its stain if left in alcohol for too long a time. When stained, a vacuole can be seen in each spindle.

The second microbe is a spirochete, which is very difficult to stain, the best stain being gentianviolet. Vincent considers it identical to the spirochete found at times in the normal saliva.

On the clinical findings alone an exact differential diagnosis between Vincent's angina and other forms of angina cannot be made. This is especially true of diphtheria and lues. With the aid of the microscope an exact diagnosis can be made.

The prognosis is, as a rule, good, as serious complications are the exception. The treatment consists of antiseptic applications, light diet, etc.

On the Treatment of Chronic Suppurations of the Middle Ear with Formalin.—GERONHI (*Archiv Ital. di Otol., etc.*, Band xiv, Heft 1; rev. *Arch. fuer Ohrenheilkunde*, Band 59, Heft 1 u. 2).—After carefully cleaning the external auditory canal and middle ear the author packs them with gauze, which is impregnated with a 2 or 5 per cent. solution of formalin in glycerine. At times he uses solutions as strong as 10 per cent. If the patient is to carry out the treatment himself, he is instructed to instill from two to three drops of a 5 per cent. solution twice daily. Fifty-four cases in all, mostly chronic cases with foul-

smelling discharges and granulating mucous membranes, were treated with the result that thirty-four were permanently cured. Usually there was a marked diminution in the odor after the first application; and in only a few cases was there much pain caused by the applications.

The Differential Diagnosis of Acute and Chronic Brain Abscess by Means of the Encephaloscope.—WHITING (*The International Journal of Surgery*, September, 1903).—The author's encephaloscope represents the principle of the cystoscope. It consists of a hollow metal tube with a flaring orifice and slightly contracted extremity. An obturator accurately fits into the cavity of the tube so as to avoid any possible injury to the brain substance while passing the instrument into the abscess cavity. By means of this instrument the author claims it is possible to determine absolutely if we are dealing with an acute or chronic brain abscess. The appearance of the walls of the abscess cavity in acute purulent encephalitis is like that of some space surrounded with delicate, smooth mucous membrane, while in the chronic cases the walls are invested by a dense, yellowish-white opaque membrane of firm consistency, which is usually in folds. The clinical value of the encephaloscope lies in the fact that:

1. We can determine positively whether evacuation of the purulent contents of the abscess is complete.
2. We can determine whether there exist any plastic bands which interfere with the drainage.
3. We can determine whether we are dealing with an acute or chronic brain abscess, the prognostic importance of which cannot be overestimated.
4. It is of great assistance in the post-operative treatment of brain abscess.

The Rational Treatment for Mouth Breathing.—FITZGERALD (*Medical Record*, September 5, 1903).—The writer states that mouth breathers are always afflicted with chronic nose, throat and chest affections, and that such diseases of the respiratory tract will never be stamped out until the human family will have learned to take every inspiration through the nose. He divides mouth breathers into confirmed and moderate: the latter are not conscious that they breathe abnormally until convinced. His test is to have them read aloud, when it will at once become apparent. The treatment consists in restoring the nose to a condition as nearly normal as possible, and then insist upon its use. He condemns the use of sprays and douches, as they only irritate the mucous membrane, and thus increase the obstruction. What the patient requires is a normal passage of air through the nostrils and pharynx. If he sleeps with his mouth open, a mouth guard in the form of an adhesive plaster placed vertically across the mouth should be worn at night until normal breathing is established. During the day mouth breathers should be required to breathe forcibly through the nose at the rate of one breath per second (ten times at least), eight or ten times in twenty-four hours. Children should be taught from infancy.

The Abuse of Inflation and Massage of the Middle Ear.—AMBERG (*American Medicine*, September 5, 1903) believes that the indiscriminate use of inflation and massage are productive of much harm in some cases of otitis media, especially in the sclerotic cases. Three suggestions are made for the treatment of non-inflammatory processes of the middle ear:

1. The use of the Siegle pneumatic ear speculum, especially for diagnostic purposes, is an absolute necessity.
2. Treatments should be continually controlled by hearing tests.
3. Local treatment of an injurious nature should absolutely be desisted from.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Eye Complications of Small-pox.—A. R. BAKER (*Jour. A. M. A.*, September 12, 1903.)—The paper is based on observations made by the writer during the recent epidemic in Cleveland. In the years 1898-1901 the city passed through an epidemic of mild variola, during which 2746 cases occurred with a mortality of only .015 per cent. During this epidemic severe eye complications were not observed either by the writer or his colleagues. The epidemic was terminated by vaccination and rigid quarantine. Unfortunately the use of infected virus resulted in the development of tetanus in a number of cases. This led to the abandonment of general and compulsory vaccination and the adoption of a vigorous crusade of house-to-house disinfection with formaldehyde. The total and disastrous failure of this policy is indicated by the appearance of a malignant and highly contagious type of the disease in 1902, when 1248 cases resulted in a death rate of 17.9 per cent.

The severe eye complications observed included perforating ulcer, hypopyon, panophthalmitis, corneal fistula, iridocyclitis, adherent leukoma and corneal staphyloma. The final outcome could hardly have been more disastrous: in twenty-three cases described, in four both eyes were blind, in eight one eye was either atrophied or had to be enucleated, in six one eye was blind, but the form of the globe was preserved, in three vision less than 20-200, in five vision greater than 20-200, and in two corneal fistulae persisted. All these cases had severe confluent variola and none had been successfully vaccinated.

Corneal lesions do not appear before the third week. Pus from the lesions is conveyed to the eye by the fingers, etc., or may come from the crusts on the lid-margin. In patients whose vitality has been greatly lowered a true keratomalacia may occur. Bacteriologically, streptococci and occasionally staphylococci are found. The writer remarks that "the patients who suffered most severely were those who barely escaped with their lives, and, doubtless one reason there are not more blind from small-pox, is because so many of the confluent cases die." Cleansing the face and lids with a sublimate solution 1:4000 and boric acid collyria four times a day proved to be the best prophylactic measures.

A Case of Optic Atrophy Developing Rapidly After Uterine Hemorrhage.—CHEVALLEREAU (*Arch. d'Ophtalm.*, July, 1903).—The patient gave a history of continued headaches, worse during menstruation, which, however, had always been regular and painless. One miscarriage in nine pregnancies. Since the last pregnancy (which terminated at eight months) she had frequent uterine hemorrhages. Syphilis was contracted three years before the beginning of the last pregnancy.

Vision was completely lost twenty-four hours after a copious hemorrhage. Ophthalmoscopically, the disks appeared white with fringed borders, and were surrounded by hemorrhages. At the end of six months, examination showed no material change.

In a resume of the twenty-eight cases in the literature, the hemorrhage occurred after accouchement at term in nine, after abortion in ten. In eight cases there was no connection with pregnancy. In one it occurred in a case of uterine fibroma. In all cases the hemorrhage was abundant. Headache, general weakness, profound depression, syncope and vertigo are the usual immediate symptoms. Vision becomes increasingly dimmer and dimmer until the blindness is total. Disturbance in vision may be immediate; in other cases sight is preserved from

two to twenty-one days. In most cases the trouble is equal in the two eyes; rarely one eye alone may be affected. Pupils are dilated and react sluggishly, or not at all. The fields are irregularly contracted. Some cases show complete atrophy of the disk, in others the papillæ are simply pale. Optic neuritis and choked disk have been observed. The vessels are always diminished in calibre and may be reduced to mere threads. In three cases retinal hemorrhages occurred.

The conclusions reached by Terson from histologic findings in cases of Hirschberg, Ziegler and Raehlmann, are, in part, as follows: Ischemia of the territory supplied by the central retinal vessels accounts for the rapid trophic changes in the nervous elements. This ischemia may be due to spasm alone of the terminal arteries, or to endarteritis. The endarteritis does not obliterate the lumen of the vessel, even when optic atrophy is complete. Retinal edema probably affects the fibres of the nerve and retina.

Prognosis is, in general, absolutely bad. To counteract arterial spasm, inhalation of amyl nitrate may be employed if the case is seen in the beginning.

Eye Complications That at Times Attend Measles.—G. F. SUKER (*Medicine*, September, 1903).—Patients of the poorer classes and those suffering from malnutrition are apt to develop ocular complications during an attack of measles. In the more serious cases syphilitic or tubercular taint may be suspected. Excessive redness and swelling of the fornix with an otherwise normal palpebral and ocular conjunctiva, and the appearance of reddish irregular spots near the lid margin are features characteristic of the initial conjunctivitis. Follicular catarrh may follow an attack.

In scrofulous patients, phlyctenular conjunctivitis and keratitis, often accompanied by nasal trouble, are not infrequent at the end of the second week of convalescence. Keratomalacia is rare. Of lid affections, marginal blepharitis, either of the hyperemic or pustular type, occurs and tends to run a chronic course.

Gangrene of the lids, followed by ectropion, has been observed. Among the rarer complications are dacryoadenitis, dacryocystitis, albuminuric retinitis and metastatic choroiditis. Optic neuritis of all degrees of severity is not very infrequent. Total blindness occurring during measles is rare and is probably due to an accompanying meningitis.

Photophobia is an early symptom, and may be the very first. An enfeeblement of accommodation and the power of convergence is the cause of asthenopia frequently noted on recovery. Paresis of accommodation is, according to Suker, "nearly as frequent in measles as in diphtheria." Partial ophthalmoplegia, *e. g.*, paralysis of one extrinsic muscle and of accommodation, rarely occurs.

BOOK REVIEWS.

KING'S MANUAL OF OBSTETRICS. By A. F. A. KING, M. D., Professor of Obstetrics and Diseases of Women in the Medical Department of the Columbian University, Washington, D. C., and in the Medical Department of the University of Vermont. Ninth edition, revised and enlarged. In one 12mo volume of 628 pages, with 275 illustrations. Cloth, \$2.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York. 1903.

This volume may justly be looked upon as a model of a "manual." The author presents concisely, accurately and clearly the principles of modern obstetrics. A perusal of the book will easily explain the reason why it is now presented in its ninth edition, a proof of popularity that is shared by very few medical publications. In the preface to this ninth edition the author states that all changes have been made which the progressive development of obstetric science seemed to require. In the reviewer's opinion these changes are in several points deficient. The internal secretion of the ovaries is not even mentioned, the old Hunterian theory of the implantation of the ovum is given, while Peters' theory may be considered as the one at present generally accepted. Not a word is said about the fetal theories in the etiology of eclampsia. The possibility and actual occurrence of super-fetation is reported as "now generally admitted." Topics like "prophylactic treatment of the eyes of the newborn," "diseases as indications for artificial interruption of pregnancy" and especially "infant-feeding" would seem to deserve more than a few lines—even in a manual.

PLAIN HINTS FOR BUSY MOTHERS. By MARIANNA WHEELER. Illustrated by F. M. MILLER. E. B. Treat & Co., New York. Price, 35 cents.

This little book is written in such a plain and simple manner that no one can fail to understand its directions. It is full of common-sense advice as to general health, clothes, food, the bath, etc., and deserves a wide distribution.

SURGICAL ASEPSIS. Especially Adapted to Operations in the Home of the Patient. By HENRY B. PALMER, Consulting Surgeon to the Central Maine General Hospital. 90 illustrations. Pages vi-231. Size, large 12 mo. Extra cloth. Price \$1.25 net, delivered. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry street.

This little work embodies in a concise form the principles of modern aseptic surgery. Indeed if it has a fault, this consists in it being a little too concise sometimes; for instance, there are purposely given none of the details of preparing catgut, the author contenting himself with saying that the thing is impossible for the practitioner, so he merely mentions the steps and then tells where the finished products can be purchased. As clear and valuable as is the written contents of this small volume, there is certainly something in the illustrations to be criticized. We are not used to seeing the surgeon's gown with sleeves extending to the wrist, nor are we accustomed to placing instruments ready for the operation upon a towel which has been spread upon a table. We are a long way west of Maine (the author's home), but we know better ways of maintaining asepsis than these, and trust that the next volume of this really valuable little book may contain illustrations more in keeping with the modern acceptance of the subject.

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ORIGINAL ARTICLES.

THE PRESENT STATUS OF STOMACH SURGERY.

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At the present time stomach surgery has attained permanent standing in the treatment of a number of well-recognized conditions. The disputed ground must now necessarily lie in the field of diagnosis and technic.

In a general way it may be stated that most diseases of the stomach which cannot be relieved by the means employed by the practitioner of internal medicine, in which hygiene and diet are of the greatest importance, must ultimately be treated surgically.

In most of these cases there is faulty drainage of the stomach. This may be due to a spasmodic contraction of the pylorus, because of the presence of an ulcer or to cicatrization of such an ulcer, resulting in a permanent narrowing of this passage, or to conditions which are secondary to ulcer, such as the development of a pouch-like deformity of the pyloric end of the stomach, or an hour-glass stomach, the most unfortunate secondary effect of pyloric ulcer being the implantation of carcinoma upon its base.

Not infrequently conditions entirely outside of the stomach give rise to conditions which are referred by the patient to the stomach. Gall-stones are the most common cause of such symptoms. The same is true of appendicitis or pressure upon any portion of the alimentary canal due to the presence of a tumor. Again, this condition may be due to the presence of peritoneal adhesions between some portion of the gastro-intestinal tract and any portion of the abdominal wall or any one of the organs contained in the abdomen. Frequently together with the presence of an obstruction of the pylorus or adhesions, and rarely without these, the condition may be due to gastric displacement. In the presence of either one of these conditions surgical treatment should be employed, unless contraindicated by the presence of other conditions which would prohibit any serious operation.

In the diagnosis of surgical diseases of the stomach great difficulty is occasionally found in eliminating cases suffering from gastric disturbances due to general neurasthenia, because the latter condition is frequently the result of gastric disease which can be relieved by surgical means. It is frequently difficult, if not impossible, to make a positive diagnosis in this class of cases. One is naturally always prejudiced against a neurotic patient, and consequently one frequently is tempted to dismiss these cases as suffering from nervous dyspepsia

when the nervous disease is really the result of faulty nutrition, because of the presence of an anatomical lesion of the stomach.

On the other hand, with the increasing popularity of stomach surgery, it is plain that many simple neurotics will undergo stomach operations because they are indeed suffering from nervous dyspepsia. These cases will, of course, be influenced only indirectly by any operation, whether this be upon the stomach or any other organ.

Among the conditions which simulate stomach disease, gall-stones undoubtedly stand first in the point of frequency; and it should be borne in mind that not infrequently the adhesions accompanying the presence of gall-stones result in a distortion of the pylorus, which virtually causes an obstruction.

In these cases there is, however, almost always a considerable amount of pain to the right, around the side and back, in the vicinity of the liver; while in case of gastric ulcer, which is the only other condition in which the pain radiates into the back in a similar manner, the suffering is at least as severe to the left as to the right of the median line.

In gall-stone cases there is further a distinct point of tenderness between the junction of the ninth rib and its cartilage and the umbilicus, while in ulcer of the stomach this point is usually in the median line. There is, of course, very little danger of committing an error in the surgical practice because of an error in diagnosis in cases suffering from gall-stones which are supposed to be suffering from ulcer of the stomach or from pyloric insufficiency, because the surgeon of experience will always examine the gall-bladder in every case of operation upon the stomach; but these conditions can usually be differentiated beforehand.

One condition which the surgeon encounters occasionally, referred to him for operations upon the stomach, should always be borne in mind during the examination of these cases. I refer to locomotor ataxia with marked pain in the region of the stomach. This condition is of course easily detected during a careful examination, but it has occasionally been overlooked.

To the chronic cases referred to above should be added acute ulcers of the stomach, which are not permanently relieved by the use of internal treatment and dietary and hygienic measures. In case gastric ulcer recurs notwithstanding these measures, there is usually present an anatomical cause. The drainage of the stomach into the duodenum is usually at fault, either as a result of the healing of the previous ulcer or a pouched condition of the greater curvature of the stomach or a gastroptosis.

All of these conditions can be relieved by making a gastro-enterostomy between the lowest portion of the stomach and the jejunum sufficiently large to permanently drain the organ. This will result primarily in healing the gastric ulcer and secondarily in preventing the implantation of carcinoma at the location of the ulcer.

GASTRO-ENTEROSTOMY.

Of all the operations employed in stomach surgery, gastro-enterostomy is the most commonly indicated, because it supplies drainage of the organ, and as the want of this drainage is the cause of most of the surgical diseases of the stomach, its accomplishment must necessarily be of the greatest importance.

In gastric ulcer it relieves the raw surface from the irritation caused by the constant presence of stomach contents.

In benign stricture of the pylorus it establishes approximately normal conditions.

In dilatation of the stomach, due to ulceration or stricture of the pylorus, it permits the muscular walls to contract down to normal and disposes of the residual material in the stomach.

In obstruction, due to carcinoma, it re-establishes the communication between the stomach and the intestine and hence permits the patient's nutrition to improve. In case the disease has not advanced beyond the possibility of excision of the carcinoma, the gastro-enterostomy establishes nearly normal conditions between the remnant of the stomach and the small intestine, its opening taking the place of the pylorus.

Regarding the best method of performing a gastro-enterostomy it is still too early to make a definite statement.

In cases of excision of the pylorus it seems as though the Murphy button secured ideal conditions. It furnishes drainage at once, is easily and rapidly applied, is safe, and the opening is quite sufficient in size, and remains permanently of the same size in cases in which the pylorus has been excised, so that the new opening is the only opening. In cases in which the pylorus is not excised the gastro-enterostomy opening made by the button is likely to contract, and in these cases other methods are to be preferred.

It seems as though the operation devised by Mikulicz, performed with needle and thread, or that by Moynihan, or possibly the method devised by McGraw by means of the elastic ligature, might ultimately be generally accepted.

Whichever method may be chosen, the success of the operation will depend very largely upon the principle introduced by Mayo, which demands for its application that the opening in the stomach must be made at the very lowest point in this organ in order to make the drainage perfect. The application of this principle will make persistent vomiting after gastro-enterostomy, "Viscous Circle," impossible.

I have performed gastro-enterostomy in seventy-one cases. Of these, four were done with the needle and thread, thirty-four with the Murphy button and thirty-three with the McGraw ligature. All but those performed with the McGraw ligature have been previously reported, and the latter will be reported separately at some future time.

The McGraw elastic ligature operation has been exceedingly satisfactory in my hands. Its chief merits being: (1) Its very easy application. (2) The fact that neither the intestine nor the stomach are opened. (3) The fact that the anastomotic opening can be made sufficiently long to prevent future obstruction due to contraction. It is, however, too early to make a definite statement regarding the real value of this method.

In applying the method the following conditions must be borne in mind: (1) A round rubber cord 2 mm. in diameter, made of the best material, should be used. (2) A posterior row of Lembert sutures is applied. (3) A long, straight needle armed with the rubber ligature is passed into the lumen of the intestine and out again at the desired distance, from 5 to 10 c. m. away from the point of introduction. (4) While an assistant holds the intestine the surgeon stretches the rubber in the needle, and when quite thin draws it rapidly through the intestine. (5) The same step is repeated through the stomach. (6) A strong silk ligature is placed across and underneath the rubber ligature between

the latter and the point where the stomach and intestine come together. (7) A single tie is made in the rubber ligature after the latter has been drawn very tightly. (8) The silk ligature is passed around the ends of the rubber ligature where they cross and tied securely three times. (9) The ends of the latter are released and cut off, being held by the silk ligature. (10) The Lembert suture is continued around in front until the point of its beginning is reached, where it will be tied. (11) Care must be exercised to prevent tying the rubber too far backward, and thus getting behind the posterior row of Lembert sutures.

I am thus explicit in describing the steps of this operation because I find that only those who are thoroughly familiar with the method have used it, and apparently all with great satisfaction.

The other methods of gastro-enterostomy have been described so frequently that it will not be necessary to repeat their description.

PYLOROPLASTY.

This operation is still under observation. Mikulicz, Finney and a few other surgeons speak well of this operation in selected cases of cicatricial constriction of the pylorus. My own experience has not been satisfactory with this operation. The method introduced by Finney is undoubtedly the best. It should be employed only in cases in which there is a sufficient amount of tissue to make the new pyloric opening very large.

PYLORECTOMY.

The results of pylorectomy will undoubtedly be more and more satisfactory because these patients are likely to come to the surgeon before the carcinoma has advanced to the hopeless condition usually encountered at the present time. The results of Mikulicz, Kocher, Czerny and a few others are even at the present time sufficiently satisfactory to warrant the operation.

This operation should always consist in excision of more than 3 c. m. of the duodenum beyond the malignant growth and the removal of at least two-thirds of the stomach, together with the lymphatics in the lesser omentum, even in cases in which the carcinoma is not advanced. This is important, because the lesser curvature of the stomach is likely to be infected to a great distance from the original growth, even in the early stages of the disease.

The operation should be performed in a systematic way, the blood vessels being caught successively between two pairs of forceps, the pyloric, gastroduodenal being caught first, then the coronary and left gastro-epiploic. The veins accompanying these arteries are caught at the same time. Then the tissue is cut and carefully ligated. Then forceps are applied in the same manner to the gastro-hepatic omentum, then cut and the same steps carried out in the gastro-colic omentum until the desired point is reached. Care must, of course, be taken not to apply the forceps too close to the transverse colon for fear of causing gangrene by wounding the middle colic artery.

In this manner almost the entire stomach can be removed without causing much more shock than a simple pylorectomy. It is important to remember the distribution of the infected lymph glands in carcinoma of the stomach, which makes it desirable to remove the portion of the stomach indicated in the accompanying diagram, even in cases not far advanced. The end of the duodenum

and the stomach should be closed, and the remnant of the stomach should always be attached to the jejunum, because this intestine is covered throughout with peritoneum, while the duodenum is not, and the attachment can be made without fear of tension.

GASTRECTOMY can be indicated in only a very small number of very unusual cases. It is simply a continuation of the operation for pylorotomy, just described. Here again the jejunum should be chosen for attachment to the esophagus for the reasons just stated.

GASTROSTOMY is indicated in all cases of obstruction of the esophagus due to carcinoma, in which starvation is imminent. The patient receives a great

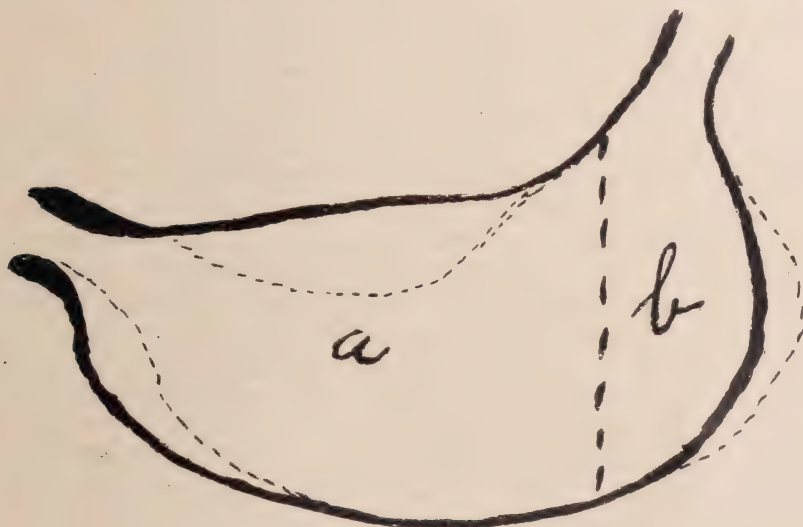


DIAGRAM OF STOMACH.

a—Area likely to be infected in carcinoma of pylorus. *b*—Area likely to remain free.

amount of comfort from this operation. It should be performed by infolding the stomach walls and placing a tube made after the pattern of a Jacob's retention catheter, only larger, permanently in place.

In cases suffering from a benign stricture, which cannot be dilated from above, this operation is indicated for the purpose of making retrograde dilatation.

GASTRODUPLICATION.

It is not likely that this operation will ever again receive any prominence, because the same end can be obtained so much more certainly, safely and easily by making a gastro-enterostomy.

ELEVATING THE STOMACH IN GASTROPTOSIS.

This operation is still being tested. It has not obtained a permanent position, although a few authors, notably Beyea, speak well of it.

My personal observation in this class of cases is not sufficient to warrant a positive opinion, especially as the method I employed was faulty, inasmuch as it interfered with the future motility of the stomach.

My own observations and a study of the literature of this subject has forced upon me the opinion that in cases in which severe pathological conditions of the stomach exist, which cannot be relieved medically in a reasonable period of time and which can neither be traced satisfactorily to a neurosis not secondary to gastric disease, nor the other conditions which have been mentioned, it seems proper to attempt the relief by the use of surgical treatment, and also that this should be done reasonably early in the course of the disease.

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COMPLETE OBSTRUCTION OF FIRST PORTION OF DUODENUM DUE TO GALL STONES—REPORT OF CASE.

BY PAUL Y. TUPPER, M. D., of St. Louis, Missouri.

Carefully compiled statistics show that bowel obstruction due to impacted gall stones is not uncommon. It is needless to state that calculi of sufficient size to cause such obstruction have not reached the intestine by way of the biliary ducts. Doubtless calculi large enough to become impacted in the cystic or common duct have, on occasions, found their way by an ulcerative process into adjacent portions of the intestinal tract, especially the first and second portions of the duodenum. Such stones, being usually too small to obstruct the intestine, after gaining entrance into it are, I presume, readily passed on with the intestinal contents and attract no clinical attention. It is very patent, however, that a calculus of great size having formed in the gall bladder can, under certain circumstances, set up an inflammatory action by which the walls of the gall bladder become attached to adjacent structures, ulceration ensues and the imprisoned calculus is thereby liberated from the gall bladder and escapes most frequently into some part of the gastro-intestinal canal—the duodenum and portions of the colon being perforated most often because of their relative fixedness. It is interesting to note in passing that biliary calculi have found their way by ulceration from the gall bladder and ducts into the stomach, pleura, lungs, pelvis of the kidney, ureter and other channels.

When a calculus ulcerates from the gall bladder into the intestine it rarely causes obstruction at the site of the ulceration, strange as it may seem. Observations recorded both in the operating and in the dissecting room emphasize this. The caliber of the small intestine gradually decreases from the beginning of the duodenum to the ileo-cecal junction. Most of the impacted gall stones causing obstruction have been found lodged in the lower portion of the ileum, far removed from the point of entrance into the intestine. This gradual diminution in the size of the canal is probably a causative factor in the lodgment of the stone below the point at which it has gained entrance into the bowel.

In most cases the stone is sufficiently large to fill completely the lumen of the bowel. In some, however, this is not the case and yet obstruction has resulted. Bearing on this and offering, I think, quite a satisfactory explanation of such occurrences are the comments of Dr. Lewis Stephen Pilcher on an obstruction case reported in the *Medical News*, February 28, 1902. The stone, one inch in diameter and three inches in circumference, was lodged in the duodeno-jejunal fossa and caused obstruction at that site. Dr. Pilcher remarks that the cause of the obstruction was apparently not the size of the calculus but “the

weight of the stone was sufficient to prevent the free movements of the loop in which it was held. The mechanical irritation due to its prolonged retention at the most dependent point of this loop produced a circumscribed congestion of the underlying bowel wall, favoring the transmission of infection and a resulting localized peritonitis which glued the loop, sharply bent upon itself, into the duodeno-jejunal fossa and thus added a condition of angulation of the bowel to whatever of obstruction the calculus had previously produced. The combination of the two conditions produced the complete obstruction." The term "decubital irritation" is used in this connection, and not inaptly I think, as descriptive of a potent factor in the production of intestinal obstruction due to gall stones not of sufficient size to occlude the lumen of the bowel.

There are well-authenticated reports of obstruction of the small bowel caused by impacted biliary calculi that have found their way into the bowel by ulceration. The point of obstruction has been, in all instances I have found reported, in the small bowel and the calculi have, with rare exceptions, been single. The statistics of Leichtenstern (Ziemssen's Cyclopaedia), published in 1875, show that in 1541 cases of bowel obstruction from all causes, forty-one were due to gall stones. Gibson reports in *Annals of Surgery*, 1900, that in 1000 operations for acute intestinal obstruction compiled from recent records the cause of obstruction in forty was found to be due to a like cause. Of the forty cases, twenty-one proved fatal—the patients' depressed condition at the time of the operation, auto-intoxication, peritonitis, etc., contributing to the fatal issue. Kirmisen and Rochard (*Archiv Generales de Medicine*, February, 1902) collected from all sources one hundred and five cases of bowel obstruction due to gall stones. Of these about two-thirds resulted fatally. Certain of the recoveries followed the passage of the gall stone per rectum. The above statistics show that three per cent. of all cases of bowel obstruction are due to the lodgment of impacted gall stones. Three-fourths of all the cases reported were women and most of them had passed middle life.

The history of the patient, especially bearing on former attacks of acute inflammatory trouble in the right hypochondrium, accompanied or not by jaundice, assists in the diagnosis of bowel obstruction due to the presence of migrating gall stones. The more or less exact location of the obstruction, moreover, is often suggested by certain symptoms accompanying the attack. If the site of the obstruction is well down in the small bowel, the symptoms are the ordinary ones of obstruction due to any cause and the location of the trouble is necessarily vague unless a mass be felt. Suppose, however, that the stone is lodged, as is likely, at the junction of the second and third portions of the duodenum where a decided angle of relative fixedness exists, or at the duodeno-jejunal fossa, as in two cases reported, what special symptoms should we expect? There would probably be persistent vomiting of large quantities of bile and the absence of meteorism and fecal vomiting. If the obstruction be above the point of entrance of the bile duct into the duodenum the vomitus would contain neither bile nor fecal matter, and of course no meteorism would exist.

Apropos of this general subject I submit the following report of a case which, as far as I can learn, is unique. The notes of the case have been gotten from the records of the Polyclinic through the courtesy of Dr. A. E. Taussig and from his report made to the Medical Society of the City Hospital Alumni. The case is one of complete obstruction to the first portion of the duodenum by im-

pacted gall stones. In March, 1900, while temporarily conducting the surgical clinic at the Polyclinic Hospital, the following case was referred to me from the medical department:

Mrs. Edith B., aged thirty-one years, midwife. Has borne two children. Family history good. Although never robust, the patient has had no serious illness until six years ago, when she was awakened one night by a severe, colicky pain in the epigastrium, which lasted several hours. Three years later she had a similar attack, and a third one a year ago. The last attack was followed by jaundice, the first two were not. Four months before coming to the clinic she had an attack somewhat resembling the previous ones, though less severe, accompanied, however, by a peculiar feeling of stomach distension. This recurred at frequent intervals and had entirely incapacitated her for work. She soon began to vomit, usually from a half hour to two hours after eating, and for some time before presenting herself at the clinic had retained practically nothing on the stomach. The vomitus at one time contained blood. She was pale and emaciated and said she had lost thirty-four pounds in four months.

On inspection the stomach could be made out smooth and rounded and filling the epigastrium. An occasional peristaltic wave was discernible, traversing it from left to right. Two hours after an Ewald breakfast the stomach contents were expressed through the tube. There were obtained 160 cc. of bread and water fairly well macerated and digested. No evidences of putrefaction or unusual fermentation. Free hydrochloric, but no lactic acid. On inflation the stomach borders extended laterally to the edge of the epigastric region; inferiorly not quite to the umbilicus. After the expulsion of air the abdomen was flaccid and the edge of the liver could be felt extending one and one-half inches below the costal margin. On a later examination a hard, smooth mass, apparently the size of a walnut, fixed and painful, was fairly well made out in the epigastrium.

Urine normal. Blood count, no leucocytosis.

The patient was kept in bed on a mild diet and regular lavage and for a time did fairly well. Soon, however, her condition became so precarious that she readily assented to an exploratory operation.

Fearing that I had a malignant stenosis of the pylorus to deal with and being prepared for either a gastro-enterostomy or possibly a pylorotomy, I operated before the advanced classes of the Medical Department of Washington University on March 15, 1900, being assisted by Drs. Deutsch, Robinson and others connected with the clinic. After having prepared the stomach by proper irrigation, I opened the abdomen in the median line just below the ensiform, and found an irregular but apparently an inflammatory mass located just below the right lobe of the liver. The adjacent structures were so matted together by adhesions as to be almost unrecognizable. The pylorus proper did not seem to be the site of the greater part of the mass, which apparently involved the first, or ascending, portion of the duodenum. With a view to determine more accurately the location and character of the obstruction, I decided to open the stomach. Drawing this viscus well forward by means of two stay sutures, I made a vertical incision in its anterior wall about two inches from the pylorus, large enough to admit the index finger. The finger introduced into this opening passed readily into the pyloric orifice and encountered a hard, resisting mass

entirely occluding the first portion of the duodenum, some soft tissue, imparting to the touch the feeling of mucous membrane or granulation tissue, covering the mass. On removing this with the finger I immediately came upon a large quantity of faceted gall stones, tightly impacted and ranging in size from that of a split pea to a filbert. Of these, eighteen were readily removed through the stomach wound either with the finger or scoop, and quite a number could be felt escaping into the duodenum as the impaction was broken up. After satisfying myself that the obstruction was fully removed and that the lumen of the intestine at the site of the obstruction was clear, I closed the stomach wound. This was done with a continuous suture of the mucous membrane and a sufficient number of Lembert sutures over this. The abdominal wound was closed in the usual way.

The gall bladder as far as I could make it out was empty and firmly adherent to the mass containing the calculi. The opening into the duodenum was through its upper portion and just beyond the pyloric valve. At this site evidently the inflamed gall bladder had become adherent to the duodenum and ulceration between the two cavities had taken place. Thus liberated, the mass of gall stones gradually encroached upon the lumen of the intestine until complete occlusion took place.

Predigested nutrient enemata sustained the patient until the fifth day, when small quantities of peptonized milk were well tolerated by the stomach. Convalescence was satisfactory and after ten days the patient was nourished entirely by the stomach. In the following June, three months after the operation, she reported to the medical clinic in excellent condition. On August 8, 1901, the patient was sent to me at the Missouri Baptist Sanitarium with an attack of cholecystitis. This was of brief duration and she left the hospital on August 15th in fairly good condition. The records of the Polyclinic show that later the patient suffered several attacks of apparently gall stone colic.

I have made an exhaustive search through all of the publications at my command for reports of cases similar to the above and found none. Many cases are reported of bowel obstruction caused by the lodgment of large single biliary calculi, most of which have, presumably, ulcerated through the gall bladder into the duodenum and passed on to cause obstruction in the jejunum or ileum. Unfortunately, when death ensued post-mortem investigations were rarely made to determine the exact details of the individual cases.

The following well-authenticated cases bear upon the subject: Reported by Schule (*Berliner Klin. Wochen.*, 1894). Woman, aged thirty-five years, suffering with pain in the right hypochondrium, recurring irregularly and not associated with jaundice; stomach distended and displaced downward. Vomiting and collapse. Vomited bile but no feces. A spherical gall stone three and one-half inches in circumference passed per rectum.

Reported by Henry L. Elsner (*Medical News*, February 5, 1898). Woman, aged fifty-seven, acute intestinal obstruction. Passed per rectum biliary calculus three and one-half inches long, five and one-half inches in circumference, weighing 368 grains. Eleven months later passed another calculus two inches in diameter and three inches in circumference, weighing 240 grains. At first pyloric cancer was suspected. From the size of the calculi they probably had ulcerated from the gall bladder into the transverse colon.

Reported by Naunyn (*Medical News*, February 5, 1898). Tumor seven

months in the region of the pylorus. Post-mortem disclosed a large calculus filling the gall bladder and ulceration from the gall bladder into both the duodenum and colon.

Reported by Winston St. John (*British Medical Journal*, November 12, 1898). Man, fifty-four years. Had suffered from intestinal obstruction. Post-mortem disclosed a hard fecal mass, the size of a walnut, containing a gall stone one inch in diameter, obstructing the small intestine six inches from the ileocecal valve. The duodenum was firmly fixed to the liver by a dense cicatricial mass. On opening the duodenum it was found to communicate with the gall bladder by an orifice large enough to admit the little finger.

Reported by Mr. Mercer (*British Medical Journal*, December 30, 1893). A woman, aged fifty-two years. Operated upon for bowel obstruction. Biliary calculus one and one-half inches long and three-fourths of an inch in diameter obstructed the small bowel, it being distended above, and empty and contracted below the site of obstruction. Calculus removed through incision. Death the following day.

Reported by Nairn (*British Medical Journal*, May 20, 1893). Woman, aged seventy-five years. Operated upon for bowel obstruction. Biliary calculus three inches in circumference found obstructing the jejunum and removed by incision. Death in ten hours.

Reported by Wilkinson (*British Medical Journal*, February 13, 1897). Woman, aged sixty-three years. Suffered from bowel obstruction. Diagnosis of gall stone made from the history of the case. Treated on expectant plan. Patient in extreme state seven days but no surgical operation performed. Eleven weeks after onset of first symptoms passed from rectum a gall stone the size of a pigeon's egg. Weight in fresh state $341\frac{1}{2}$ grains. Recovery.

Reported by Johathan Hutchinson, Jr. (*British Medical Journal*, December 7, 1895). Woman, aged sixty-nine. History of biliary colic. Later intestinal obstruction of four hours' duration. Biliary calculus weighing only 121 grains removed by operation from the ileum which was obstructed. Death. Mr. Hutchinson observes that this calculus was in diameter about the size of the Murphy button usually used in the small intestine, and states that this part of the intestinal canal scarcely allows the passage of a calculus of a greater diameter than one inch. Hutchinson collected thirty cases of fatal bowel obstruction from biliary calculi.

Reported by J. A. Scott (*Philadelphia Medical News*, December 27, 1902). Woman, aged sixty-seven years. Gangrene of jejunum from gall stone obstruction. One foot of gangrenous bowel excised and calculus weighing 190 grains removed. Death.

Reported by Charles K. Briddon (*Annals of Surgery*, 1897). Obstruction in the lower portion of the ileum by lodgment of gall stone weighing 400 grains. Operation. Death.

Reported by John Walters (*London Lancet*, December, 1881). Woman, aged sixty-nine. Pain and fecal vomiting. Operation on seventh day. Gall stone obstructing lower portion of the small intestine. Death next day. Autopsy: No gall bladder found but at its site the duodenum was firmly attached to the liver and a large opening was seen in the upper wall of that portion of the intestine.

Reported by Jackson A. Atkinson (*British Medical Journal*, March, 1895).

Woman, aged sixty-five. Death from bowel obstruction. A gall stone one and one-half inches long lodged in the duodeno-jejunal flexure. No gall bladder found, but the duodenum was attached to the liver at the normal site of the gall bladder.

Reported by Leonard B. Clark (*Boston Medical and Surgical Journal*, March, 1893). Woman, ninety years. At sixty years had an attack of localized peritonitis in the right hypochondrium and was considered beyond recovery. Pain suddenly ceased coincident with a copious discharge per rectum of bloody pus. Recovery, but always tender in the right hypochondrium. At ninety years, death from bowel obstruction. Autopsy: No gall bladder found but duodenum attached to the liver a quarter of an inch beyond the pylorus, the hepatic ducts draining directly into the duodenum. A mass eighteen inches above the ileocecal valve contained gall stone the size of a pigeon's egg.

Reported by Samuel Wilks to the Pathological Society of London (*British Medical Journal*, December 20, 1884). A woman, aged forty-two years. Bowel obstruction. Enemata brought away gall stone weighing 250 grs. and faceted. Two days later there was passed a second stone weighing 130 grs., faceted to fit the first stone. Stones thought to have ulcerated from the gall bladder into the colon. In the discussion of the case Mr. John Wood reported a tumor operated on in the region of the gall bladder. The mass contained an abscess and two gall stones each the size of a nutmeg. The mass was adherent to the hepatic flexure of the colon. Mr. Wood thought he had intercepted the stones in their passage to the colon. Mr. Treves said that of forty-nine cases of gall stone obstruction to the bowel, forty-eight indicated ulceration between the gall bladder and the duodenum and only one between the gall bladder and the colon. In over 50 per cent. of the cases of bowel obstruction from gall stones the site of the obstruction was in the lower part of the ileum. The next most common site was in the jejunum. The obstruction was not merely mechanical but resulted oftentimes from the contraction of the bowel due to the irritation produced by the presence of the stone. In such cases Mr. Treves suggested that opium as a therapeutic measure might be helpful.

From the foregoing report of my case, and also from the collection of cases typical of bowel obstruction due to gall stones, we may, I think, justly draw the following conclusions:

First—That when bowel obstruction occurs in patients who have had at any time acute inflammatory trouble in the region of the right hypochondrium, erratic gall stones are to be considered as a probable factor in the production of the obstruction. The probability is increased when the patient is a woman and past middle life.

Second—That because of its proximity and fixedness, the duodenum is the most frequent avenue of escape for calculi ulcerating from the gall bladder. The colon is next in order. The jejunum and the ileum, probably because of their greater mobility, are rarely perforated. Calculi entering the duodenum are generally carried further into the small intestine and arrested in their progress by the gradual diminution in the lumen of the bowel.

Third—That gall stones ulcerating into the colon rarely cause obstruction, but are usually passed readily per rectum.

Fourth—That when gall stones smaller than the lumen of the intestine cause

obstruction, it is probably because of the so-called "decubital irritation and angulation" described by Pilcher.

Fifth—That the site of a bowel obstruction can be often approximately located by the study of certain symptoms, such as the presence or absence of meteorism and the presence or absence of bile and feces in the vomitus.

Sixth—That the lower portion of the small intestine is frequently the site of obstruction, caused by the lodgment of migrating single gall stones. The lodgment in the duodenum below the entrance of the bile duct is very rare, and the lodgment between that point and the pylorus must be exceedingly rare, as I can find on record no case other than the one herein reported. The character of the obstructing body is also unique, in that it consisted of a collection of faceted calculi rather than the single large calculus ordinarily causing obstruction.

REMOVAL OF A FIVE-CENT PIECE FROM A STRICTURED ESOPHAGUS.

BY A. V. L. BROKAW, M. D., of St. Louis.

The removal of foreign bodies which have lodged in the respiratory or alimentary tract is often accompanied with so much difficulty and anxiety, both to the patient and the surgeon, that I feel sure my experience in the following case will prove both interesting and instructive.

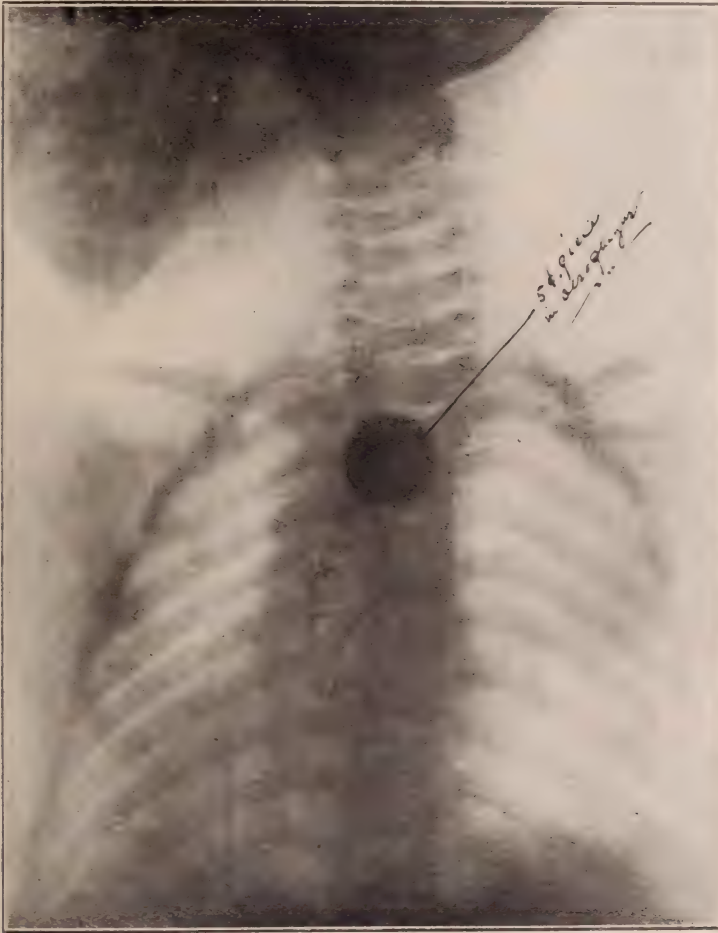
The case demonstrates the great value of the x-ray as an agent for determining the exact location of foreign bodies when lodged in the respiratory tract or esophageal portion of the alimentary tract. Being in possession of this information we are enabled to employ the proper means for extracting the offending body, and can do so without damage to surrounding tissue and with greater facility than when attempting the removal by working blindly or depending upon the sense of touch with the finger or with instruments. This case presents some points of similarity to the one reported by the writer in which an upholsterer's tack was removed from the right bronchus after being located by an x-ray examination.

In the latter part of June, 1902, Raymond Jackson, aged three, swallowed a quantity of "concentrated lye." He received some medical treatment at the time but later developed symptoms of obstruction. As an early symptom the more solid food began to regurgitate and within a few weeks he vomited whatever food was taken, even semi-liquid food. The obstructive symptoms progressively increased in severity, the child gradually grew worse and when seen by me in the latter part of August, he could occasionally only swallow a little milk. The child's general health was rapidly failing from day to day.

Catheterization of the esophagus was commenced at once. At the first attempt a small sized bougie (No. 1) was passed, and on the first day three sizes were used and successfully passed beyond the point of obstruction. At intervals of a few days other sounds were passed and the dilatation of the esophagus was followed by very marked improvement in the general condition of the patient. He could take a quantity of milk, thin soups, etc., and rapidly began to build up.

On October 3, 1902, a bougie was passed and then the little fellow objected to further instrumentation, but on the promise of giving him a nickel he con-

sented to allow me to pass a larger esophageal sound. After leaving the office he placed the five-cent piece in his mouth for safe keeping. Arriving at home he promptly swallowed the nickel and it passed on as far as the stricture in the esophagus would permit and there it became firmly wedged. All domestic efforts to induce expulsion were unsuccessful, the child was inverted, persistently shaken, slapped on the back, etc., but the nickel remained fixed. The patient was brought to my office four or five hours later, a fluoroscopic examination was



made, the nickel clearly located and a radiogram taken at once. (See illustration.) The place of lodgment being clearly outlined and accurately located, an effort was made to remove the foreign body with a coin-catcher. This was not successful, however, and a flexible "Trousseau's" forceps was introduced. In a few moments a firm grasp was obtained upon the coin and instrument and coin were withdrawn, but not without some difficulty owing to the coin being so very firmly fixed, probably as a result of the contraction of the esophageal muscles in the already narrowed canal.

THE HYPODERMIC USE OF MERCURY IN SYPHILIS.

BY S. P. COLLINGS, M. D., of Hot Springs, Arkansas.

In the treatment of syphilis in this day and age I believe that no one, who is well informed, doubts the advisability of the use of mercury. It is the only drug we have that can stand as a specific in this disease; and to prove that it is a specific one has only to watch its certain effect, when properly administered, upon the varied lesions of this disease. All other drugs or means that we have at our disposal, in combating its ravages upon the human race, are but adjuncts, and we include in this category the iodine compounds.

The subject of the hypodermatic use of mercury in syphilis has been discussed and written upon so largely in the last twelve to fifteen years, and many of its advocates have been so sanguine of quick results, that a wave of disapproval has necessarily been the result among many syphilographers. This is almost necessarily true of every advance in medicine. The storm of approval comes first, followed by one of disapproval, and, finally, by the establishment of the true value of the medicament or procedure, as the case may be. The hypodermatic use of mercury has necessarily been delayed a long time in reaching what is probably its proper place in the treatment of syphilis, owing to the fact that there are so many preparations of mercury, each with its numerous advocates, and also to the fact that experimentation is often interfered with by the patients not submitting to the pain produced by some of the various methods and preparations used.

This new era in therapy was begun by Charles Hunter and Barclay Hill, in 1856, by Hebra in 1864, Scarenzio in 1865, and largely perfected by Lewin in 1868. However, there was much unfavorable criticism at the time and many succeeding attempts were short-lived, and I may add also that there are still many who hold adverse opinions against the advisability of its use. Much of the unfavorable comment today has been brought about by overzealous advocates of the procedure claiming to perform "quick cures," or shortening the length of time that the disease is usually treated. Should they claim that the patient would be more certainly cured it would probably be more correctly stated. It might as well be said that the rapid disappearance of symptoms by the inunction methods is a "quick cure," yet no such claims are made for that. All things being equal, I can see no reason why that method which brings the quickest relief from symptoms should not be the best one to use. The means that will most certainly prevent the return of those manifestations is still the best one to employ, unless there be good and sufficient grounds why it should not be kept up.

The most serious objection to the universal use of the hypodermatic method has been the pain and soreness following its administration. Use every care that we may, in some cases the injection will be followed by pain of greater or less severity, to which our patients object and to which occasionally they will not submit.

There is also a possibility of an embolism when the insoluble salts are used; however, with these preparations the writer has had no experience.

It is also said that we may have sudden and grave attacks of stomatitis, enterocolitis and pseudo-paralysis from the insoluble salts, but if care and good judgment is used I can see no reason why these should occur if the soluble salts

are used. Sloughing and abscess, which are often spoken of by writers as not being of infrequent occurrence, I have not seen. There is often some tenderness and induration, also soreness upon muscular contraction and at times some redness of the skin, but farther than that it would seem very rare, indeed, to produce more unfavorable symptoms by injecting an antiseptic fluid, even though it be a considerable irritant, with a perfectly clean syringe and needle.

Taylor aptly says of the hypodermatic use of mercury, that it is a method of "utility, exigency and emergency." It can, indeed, be productive of much good when the necessity presents itself, and the physician who does not give his patient the advantage of it in case of extreme emergency, fails to use a procedure that is capable of the most profound beneficial results.

The cases to be selected for its use should be largely those in which there is an existing necessity for the patient to be brought rapidly under the influence of mercury. This would include cases of a pernicious or malignant type, in which it is sometimes impossible to obtain results in any other manner. Also cases of rapidly destructive lesions, to prevent disfigurement or loss of function; cases of impending paralysis, whether from endarteritis or gummatous formation, and many cases of cerebral syphilis, in which a very rapid and profound effect is a necessity. In a word, it is indicated, in fact demanded, in all cases of emergency unless it is known that there are serious contra-indications to its use in the individual case—as, for example, serious kidney disease. The question as to whether it should be used as a routine treatment I think should be decided by the attending physician from time to time.

The statement appears above that the means that will most certainly and quickly relieve the manifestations of this disease and prevent their return is the best to use, but we don't want to pursue this idea in the face of severe pain and discomfort, as sometimes occurs, to the point of losing our patient. It is not my custom to treat every patient who has syphilis with injections, but I do treat a good many of them by that method. Situated as we are at the Springs we seldom have an opportunity of personally conducting the treatment of a case through the entire course, as our patients are almost entirely among the visiting class.

They remain with us from one to two or three months and then are lost sight of for several months or entirely. Where a case comes to us that has been more or less intractable at home, and where there is a necessity for the relief of manifestations quickly, even though there be some discomfort, the injection treatment is the best to use; at least until the patient is brought well under the influence of mercury, when the inunctions may be substituted. The injections place the drug where it will do the greatest amount of good in the shortest possible time.

After considerable experimentation I have adopted the following solution of the bichloride of mercury made up in two per cent. solution of chloretone:

Hydrargyri bichloride, C. P.....	grams	0.50	grs. viiss
Sodii chloride.....	"	0.25	grs. iv
Aquadestil	"	4.00	fl. 3 j
Mix. ft. sol. (gentle heat)			
Chloretone	"	0.50	grs. viiss
Aqua destil	"	20.00	fl. 3 v
Absolute alcohol	"	1.00	min. xv

Dissolve chloretone in 20 c. c. distilled water, add alcohol, and, finally, add hydrg. and sodii sol. Shake well and filter.

This makes a 1 to 50 solution of the bichloride, of which ten minims would represent one-fifth of a grain. It may be given in doses of from five minims up to twenty or even twenty-five.

The chloretone is not readily soluble in cold water, and the above solution is made by the addition of a small amount of absolute alcohol, in which it is very soluble. The formula given above is rendered practically painless in almost all cases by the addition of the chloretone, and I have found its use less painful at the time of injection and followed by less soreness and irritation than any other.

Chloretone is a white crystalline compound, belonging to the fatty acid series, and is formed through the interaction of chloroform, acetone and an alkali. In sufficient doses it acts as a hypnotic. It is also an antiseptic and in solution is a local anesthetic, its action in this respect resembling that of cocaine except that it is non-toxic.

In administering the injections one must be guarded largely by the effects. Ordinarily, a patient will stand ten minims every day for four to six days, then a larger dose should be given every second or third day, or possibly once or twice a week as the symptoms demand. The post-trochanteric region should be selected to give the injections, and they are given deep into the muscular tissue. The skin should be disinfected by being briskly rubbed with a piece of sterilized or carbolated gauze saturated with alcohol. The syringe most convenient to use is known as the "Sub Q" syringe. It is made entirely of glass with an asbestos packing so that it may be frequently boiled. The needle we use is a platino-iridium needle which does not corrode or rust, and should be long enough to reach deeply into the muscular tissue.

In giving the injections the syringe and as many needles as there are patients to be injected during the morning hours may be boiled and the needles taken from the water as needed.

The syringe need not necessarily be boiled before each injection when they are given close together, and when there has been no chance of infecting the inside of the syringe.

PANCREATITIS DIABETICA.

BY COLONEL FRANCIS T. B. FEST, M. D., of Tegucigalpa, Honduras, C. A.,

CHIEF SURGEON OF THE ARMY, PROFESSOR AT THE UNIVERSITY OF HONDURAS.

Mrs. T. L., æt. thirty-nine, widow, nullipara. Was always a healthy, well-nourished woman. Her illness began with nausea and sense of distress after eating. Pressing on the abdomen, stooping down or lacing produced acute pains. Had headache and loss of appetite. Her condition was considered malarial and treated for several weeks with quinin, during which time she rapidly emaciated.

When I saw her the conditions were the following:

Slight but constant headache. The tongue was coated, breath offensive. Pulse was weak and no rise of temperature. Had very little appetite and was constantly thirsty and drank a large amount of water. Slept much, but not well. The pain had left, and there remained only an uncertain feeling. Pressure on the epigastrium caused some pain. Bowels moved only every three or four

days. Palpation revealed no tumor nor was the abdomen tympanitic; through the abdominal walls hard, irregular masses of feces could be felt. Micturition was frequent and caused burning. On inspection found the vulva around the meatus urinarius eroded.

Examination of urine by boiling and with picric acid was negative. Trommer's and the phenyl-hydracine test showed the presence of glucose.

The feces were of a grayish color, odor sour and had segments of tenia. The microscopical examination showed fibres and food particles undigested and demonstrated the presence of fat droplets. The chemical examination proved the presence of neutral fats; the chlorine and bromine water-test discovered no trace of tryptophan.

A test-meal was taken and resulted negative.

Diagnosis: pancreatitis diabetica. The presence of neutral fats and the absence of tryptophan proved that the secretion of the pancreatic juice was suspended. According to the glucosuria, even the glycolitic secretion had come to a standstill.

My medication was intended to supply the digestive ferments and improve the general condition. Therefore, I administered pepsin, papayotin and pancreatin, the latter in keratin-coated pills with the addition of natrium bicarbonicum. As tonic, gave iron in the form of peptonates. The diet was anti-diabetic.

The erosions of the vulva were treated with applications of peroxide of hydrogen after every micturition.

Three days later no undigested food particles in the feces; there was excess of peptone products and some neutral fat. She had every day two soft stools. The glucose in the urine had diminished greatly.

Twelve days later very small amount only of neutral fats and glucose. Now I considered it time to attack the tenia, as her general condition was very much improved; she had gained several pounds. At night I gave a dose of sulphate of magnesia. In the morning she took 1.25 gm. of tannate of pelletierin finely triturated with lycopodii, magnesii carbonici, aa 25.00 gm., one teaspoonful every ten minutes until all taken, then three grammes of papayotin. In the afternoon the tenia passed, partly digested. As soon as the cellular resistance of the parasite was weakened, the papayotin began its destruction. The pelletierin was given in the indicated manner to insure the mechanical distribution over a greater area.

The medication and diet remained the same. Two weeks afterwards—and nearly one month after beginning treatment—the urine and feces were normal, and the woman able to attend to her duties. The regimen was now slowly changed to her former habits, beginning with the withdrawal of saccharine. After two more weeks the enzymes were suspended. The week after their suspension the urine had remained normal, but the steatorrhea had returned. Meantime I had obtained a quantity of pancreon, a pancreatin preparation that is greatly used in Europe, and said not to be affected by the acids of the stomach. The result was satisfactory, the fats disappeared at once. Pancreon was kept up for one month. After the withdrawal the steatorrhea did not return and the woman was discharged with instructions to present urine and feces periodically for examination.

What is the proper diagnosis of this case: pancreatitis diabetica, or diabetes pancreatica? As the diabetes was secondary and was only transitory, the name given by me covers the ground better.

Not every disease of the pancreas brings glycosuria about. I remember the case of a woman only a short time ago. I found the body turned over to me for my faculty work. The woman had entered the general hospital the day before in a state of collapse, and no satisfactory history could be obtained. The party who brought her said that the patient had had some stomach trouble, and was becoming weaker every day. Instead of pancreas we found a sac with fibrous walls adhering to the lesser omentum, duodenum, stomach and ductus cysticus. The contents were a dark mass partly liquefied without any apparent structure. Some of the mass showed the typical "Fachwerk" structure, and partly just necrogenetic detritus with some blood and fat crystals. The mass was sterile. The unusual dark color was caused by hematochromous matter, the remains of a former hemorrhage. Undoubtedly a case of autodigestion of the organ after obstruction of the duct for one reason or another. The strange part was the capsule and absence of the typical dissemination of necrotic patches as with Balser's fat necrosis. I had the contents of the bladder examined at once, but no glucose was detected. The contents of the bowels, consisting only of products of milk, were not in condition to permit satisfactory examination. The other organs of the body had the characteristic changes as after cachexias.

Apparently the woman died of inanition in consequence of the absence of the pancreatic ferments in the intestinal tract. The same would have happened with the case described as the subject of this study. Perhaps the function of the pancreas would have been re-established by itself, but I doubt very much that her vitality would have stood such a task.

Which was the actual pathological process? For hemorrhage the symptoms were not marked enough, besides, the hemorrhage is, according to my opinion, always secondary to autodigestion of the cortical tissue and corrosion of some vessel. Traumatism has to be excluded in this case. There may have been a small necrotic focus which produced sufficient hemorrhage to block the secretory duct, yet I doubt that such a clot would become absorbed in the pancreas and the digestion of the coagulum would have affected the gland at the same time. The same holds good in regard to the formation of an abscess; besides, the temperature has never been such as to justify the presence of suppuration; the consequences would have been different also.

Obstruction of the duct in some part of its course must be excluded. If the diverticulum Vateri is obstructed, we have complication by retention of the bile. There was none in this case. Passage of large biliary calculi may by pressure upon the ductus Wirsungianus impede the discharge of the pancreatic juice, but then we would have had hepatic colic, and we have had no symptom to accept this theory. I have seen steatorrhea present with cholelithiasis—most likely produced by the pressure just mentioned—and pancreatitis may follow such a retention of its secretion; but, as said before, this cannot be accepted for this case. If the obstruction had been in the ductus Wirsungianus itself, the consequences would be autodigestion, with all its sequelæ; or if the occlusion had been produced by the passage of pancreatic calculus, the passage of same would certainly have caused symptoms similar to the passage of a cholelith, and of these symptoms we had none. Quite frequently we find a ductus Santorini—I say "frequently"

and not "occasionally," as most of the text-books, because I found the accessory duct often. It may have been possible that the large duct was obstructed by some encrustation and the juice which entered the bowel so diminished until the accessory duct becomes sufficiently dilated to accommodate the full amount of secretion. I propose this theory as a possibility which may explain some cases of temporary steatorrhea; for this case I cannot admit it, because the retention of secretion within the gland would have been too prolonged not to interfere with the normal condition of its tissue and bring about its destruction. Destruction there was none—at least not extensive. Therefore, I can accept only a temporary suspension of the secretion of the pancreatic gland and its consequent partial or entire re-establishment. Whatever process was the cause, it was transitory.

The presence of the tenia was accidental and has no further bearing on the case than impairing the absorption of chyle, much more so in a country where we always have to look first for malaria and then for intestinal parasites.

As to the practical points derived from this case, I come to the following conclusions:

1. The secretion of the pancreas can become suspended for some time.
2. The secretion of the glycolytic ferment is the first function re-established.
3. The re-establishment of the secretion of the steatolyptic enzyme occurs last.
4. The natural secretion of stepsin and trypsin can be supplanted by the introduction of same per os and of other enzymes as papayotin.
5. Pancreon does away with the necessity of using kreatin-coated pills, pills of pancreatin, which coating is relatively unsafe, as can be demonstrated in vitro.

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EDITORIAL COMMENT.

SURGERY OF THE STOMACH.

The present important place which the surgery of the stomach has taken gives an especial interest to the article by Dr. Ochsner, which appears in this issue. This is the more true when we take into consideration the immense amount of work which he has done in this line; having, as he has, seventy-three gastro-enterostomies alone to his credit. It is only from such extensive experience that really valuable conclusions can be drawn; it is only from comparing various methods in a large number of instances that the best can be selected and the most desirable results be obtained. Ochsner goes so far as to say that most gastric diseases which permanently resist medical treatment must eventually come to operation if a cure is to be accomplished. This conclusion is based upon the knowledge that most of these patients suffer from faulty drainage of the gastric contents. It does not matter whether the stagnation be the result of tissue changes at the pylorus, kinking, due to the pulling of adhesions to the pylorus, displacement of the stomach, or what else, faulty drainage, in most instances, means operation some time. The principal diagnostic difficulty comes in those cases in which there is a nervous element. Some neuroses can not be differentiated from conditions really needing surgical attention, so the author thinks it likely that cases will now and then be operated upon in which nothing objective is to be found. He calls attention to the fact that the gall-bladder must be examined at every operation made upon the stomach, as, in many instances, the former will be found diseased where attention was directed to the stomach. In gastroenterostomy the Murphy button has given the author perfect satisfaction after excision of the pylorus, though the new opening may contract in simple gastroenterostomy where the pylorus has not been removed. In

these instances, Ochsner seems to think very well of the elastic ligature, which he has used many times. A careful perusal of the paper will repay anyone interested in the subject.

THE QUALITY OF THOROUGHNESS IN NURSES' WORK.

It would be well if the profession generally, but in particular those associated with hospital work, or engaged as instructors of nurses in the various training schools throughout the land, would give more than a passing glance to "An Address to the Graduating Class at the Johns Hopkins Hospital Training School for Nurses," made May 28, 1903, by Isabel Hampton Robb, entitled "The Quality of Thoroughness in Nurses' Work" (*Bulletin Johns Hopkins Hospital*, Vol. xxiv, No. 150).

The author is exceptionally well qualified to discuss this theme, for she herself was one of the first to engage in nursing at the Johns Hopkins Hospital; and since, whether employed in her professional work or living the private life, has continued closely in touch with nurses and nursing and interests that tend to uplift both.

Differing from the conventional platitudes incident to such occasions, facts are discussed with a commendable directness and with a pungency that would be impossible from one who was not at the same time nurse and woman, and upon whom the harness had not been laid through an extended period of honorable service.

With due praise for the nurse individually and collectively, her work, and the social and professional niches which she occupies, in particular the Johns Hopkins nurse and her work, throughout the entire address, interwoven with judicious appreciation and words of cheer, runs a thread of warning and solicitude. Manifestly, the pruning-knife can do its duty with far more grace when applied by feminine hands. Surely this profession, itself essentially womanly, may not rebel against authoritative criticism from one of its own household.

The following paragraphs, picked somewhat at random, will afford a fair idea of some of the more salient themes, and, it is hoped, stimulate interest in the original article:

"It is not that you may be puffed up or satisfied with yourself, but rather realize the burden of the responsibility laid upon you, and that when you have done your best, you may say with all humility that 'We are unprofitable servants; we have done that which it was our duty to do;' and strive to make the future stand for better work than the past."

"It is a great satisfaction that she (Miss Nutting) should have been among the first to inaugurate successfully the three-year course of study, with an eight hours' daily system of practical work, which marks one of the greatest advances in training school methods. Her last great achievement has been the establishment of a preliminary course of instruction for probationers."

"That there is a deep and wide-spread dissatisfaction felt at the lack of thoroughness in much of the work today, and that this deficiency is confined to no particular class of workers and to no particular degree of service, we are all aware."

"All of us have heard a portion of the public sentimentalize and idealize the nurse with such fulsome flattery that we have sometimes prayed that we might be saved from our friends."

"In the statement that there is a sad lack of thoroughness in the average

woman of today, I need only to refer to training school statistics to bear me out. From one school in twelve months 1200 letters of information are sent out, and some 175 formal applications are received. Furthermore, from this number only 50 candidates are selected; and, nevertheless, from this restricted number of women chosen, at least 8 or 10 are dropped, generally for inefficiency and lack of education. If, then, only 40 women out of a total of 175 applicants are considered worthy of admission to the school, what is the probable standard of education among the other 135, not to mention the many women who do not make formal application because refusal is certain?

"In other words, inefficiency, superficiality and lack of thoroughness belong not to the graduate nurse alone, but are the common property of the modern women, and belong to the average American household."

"But, as a matter of fact, actual experience has amply proved that the woman of wealth, the well-to-do woman, and the college student, are equally deficient in manual dexterity, so essential to good nursing, and are as ignorant of the underlying principles of household affairs as is the woman who has never had an opportunity to develop her mental power and has labored all her days with her hands."

"Even a superficial consideration of the question will readily show that the inefficiency of the trained nurse can justly be placed only where it belongs—in the lack of proper early education."

"We need two orders of trained nurses—the new order of the co-operating health nurse with the old order for the sick, who must ever be with us. The appointment of a staff of trained nurses to the schools of New York by the Health Commission, for the purpose of continuing the work in the public schools, is the beginning of this new order, and is a hopeful sign of the times."

Today it is, of course, trite to say that one of the most valuable adjuvants to the efficient practice of medicine (which, after all, means the amelioration of the ills of humanity) is the trained nurse. She must be classed not as an upper servant, nor yet as a genius, nor as a devoted and "lovely" martyr; rather as a woman of specialized training, possessed of certain elements of scientific thought, and, as a rule, is found to be, both as to capability and efficiency, the superior of the average of her sex. It is well that sound words of warning and criticism should be uttered—better that they emanate from one of the order. It is easy for the physician either to ignore or criticise the nurse or, perchance, permit her in her daily work to act as a buffer between himself and the patient. Are we as medical men doing our share toward lifting the order to a higher level? The individual nurse may be, and often is, a bit opinionated—a trifle puffed up with a knowledge of which other members of her sex are in pitiable ignorance. And yet, her faults admitted (though not condoned), she stands for the best in the field of nursing that the centuries have produced. The nurse is justified in looking to the physician as her mentor for definite instruction regarding things that she must know regarding their practical application. It would seem well that not only should the incapable woman be dissuaded from entering the order, but requirements for admission should be so elevated that she would be effectually barred. There is an unquestioned need not only for women more capable intrinsically, but better trained women, for the nurse of today has not yet attained the periphery of her well-rounded possibilities. In order to combat the tendency toward post-graduate deterioration, hospitals and training schools should be instructed to admit graduates for terms of service, and the influence of the medical man should be exerted to induce the nurse to undergo, at fairly frequent intervals, a period of hospital service.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Fever and Sugar Excretion.—RICHTER (*Berliner Klinische Wochenschrift*, No. 37, 1903).—The relationship existing between fever and the excretion of sugar has long been recognized. It was observed by Gerhard, Griesinger, Pavy and others that, in a series of febrile processes, the glycosuria of diabetes disappears, and that following such processes the tolerance for carbohydrates is decidedly increased. Many theories have been advanced in explanation of this phenomenon. The probable causes are the loss of appetite and poor absorption, which characterize febrile diseases. In cases in which these factors are not at work, the glycosuria in diabetes is not diminished.

Experiments upon animals have shown that fevers due to bacteritic infections are accompanied by a decrease of sugar, while fevers due to aseptic causes (for instance, an injury to the heat center in the corpus striatum) were accompanied by an increase.

In one series of experiments glycosuria was produced through the use of Adrenalin, and then fever through injuries to the corpus striatum. It was found that the fever had no influence whatever upon the glycosuria.

In a second series of experiments glycosuria was brought about through the same means, while the fever was produced through bacterial infection. In these cases the glycosuria practically disappeared entirely. In other words, the fever itself had no influence upon the glycosuria, while the infection resulted in a diminution and disappearance of the same.

An Unusual Murmur (Gefass gerausch).—PEL (*Berliner Klinische Wochenschrift*, No. 15, 1903).—A patient thirty-two years of age came to the hospital because of rheumatic pains in the knee-joints. He had often had hemoptysis; there was a slight retraction of the right supraclavicular space, moist rales, etc. A continuous blowing sound could be heard over the right upper lobe of the lung, most distinctly posteriorly. This murmur was accentuated during the systole of the heart, and was accompanied by a high-pitched whistling note, almost musical in nature. The normal respiratory sounds were almost entirely covered by this murmur.

The author attributed the phenomenon to a possible peculiar relationship of the pulmonary artery and vein of the right upper lobe. Either the two vessels communicated with one another, or there existed a dilatation of the vein upon which the artery pressed during each systole.

A Study of Leucocytes.—MEYER (*Muenchener Medicinische Wochenschrift*, No. 35, 1903).—The article presents the observations of the writer with reference to the action of tincture of guaiac upon the various forms of leucocytes. Ehrlich divides leucocytes into two classes, depending upon the guaiac reaction. Brandenburg first noticed that the blood and the bone-marrow in myelogenic leukemia is stained an intense blue by the tincture of guaiac, while all other tissues, even though rich in lymphocytes, show no such reaction.

Meyer applied this test in myelogenic and acute lymphatic leukemia to the bone-marrow, thymus, lymph-nodes and pus. The guaiac test was positive only in the blood of the myelogenic leukemia.

The Expulsion of Gall-Stones Through Lavage.—KUHN (*Muenchener Medizinische Wochenschrift*, No. 39, 1903) introduces a tube into the incision during an operation, and washes out the gall-bladder under a pressure of 200–1000 mm. water, maintaining that the procedure has both a diagnostic and a therapeutic value. It enables one to determine whether or not the bile passages are free; and, if they are not, will render them so through the liberation of foreign bodies contained therein. He recommends the simultaneous administration of morphine and atropine. The author maintains that gall-stone colics are the manifestations of an increased pressure in the biliary passages. The same may be produced through the washings here recommended, but are easily controlled.

Changes in the Gastric Secretion in Cases of Unilateral Extirpation of the Kidney.—VON STEJSKAL and AXISA (*Centralblatt fuer Innere Medizin*, No. 38, 1903) maintain that the extirpation of a kidney results in temporary changes in the gastric secretions. The changes affect chiefly the secretion of hydrochloric acid. The diminution of the acid continues until, on the third or fourth day after the operation, it is entirely absent. After this time it begins to increase until about the tenth day when it reaches the normal. There seems to be also a diminution of the pepsin. However, the investigations with reference to the ferments do not justify the statement of definite results. They believe that there is a close relationship existing between the gastric juices and the urine, inasmuch as they are the only acid secretions in the body manufactured from the alkaline blood.

Tuberculosis of the Tonsils.—GLAS (*Wiener Klinische Wochenschrift*, No. 36, 1903) reports three cases of clinically primary tuberculosis of the tonsils. The possible sources of infection of the tonsils, primary and secondary, are discussed in detail. It may occur through inspiration, through the sputum, through the nose, through lymph channels, through the blood channels, through food injected, through the continuity of neighboring tissues which are involved.

Two of the cases were clinically those of primary tuberculosis of the tonsils. The third case (one of miliary tuberculosis of the tonsils) seems to have occurred through sputum infection, and the infection spread to other organs through the lymph and blood channels.

In all three of the cases the tonsils presented a simple picture of hypertrophy. Bacilli were found in each case, and in two of them (as is seldom the case) in very large numbers. In one case the vocal cords were secondarily involved. The cases are of unusual interest because of their rarity.

A Meningitic Affection Produced by Meningococci Without Anatomic Lesions.—BIRNBAUM (*Muenchener Medizinische Wochenschrift*, No. 29, 1903).—A few days following the incision of an abscess at the root of a tooth the patient became ill with fever, vomiting, headache, hyperesthesia of the skin; pulse, 101 to 110, etc.

The lumbar puncture was made three times and each time a clear fluid was obtained in which no micro-organisms were found. The symptoms above named persisted, so craniotomy was determined upon. The meninges presented a perfectly normal appearance. Aspiration of the ventricles revealed a clear fluid containing intra-cellular diplococci presenting the morphologic and cultural characteristics of the meningococcus of Weichselbaum. The autopsy revealed no pathologic lesions in spite of the protracted illness.

A Case of Chronic Ulcer of the Stomach with Severe Hemorrhage, Circumscribed Peritonitis and Double Perforation Into the Intestines and Urinary Passages.—STEIN (*Muenchener Medizinische Wochenschrift*, No. 38, 1903) reports a case of chronic ulcer of the stomach which had yielded to treatment on previous occasions. On this occasion the symptoms appeared suddenly after a long period of relief. The symptoms were unusually severe—vomiting, great weakness,

pain and peritoneal irritation. Ten days later followed hematemesis, and shortly afterwards a marked albuminuria. Following this there suddenly appeared in the urine and in the stool large quantities of foul-smelling pus. From this moment the subjective symptoms of the patient were relieved. The presence of pus in the stools was noticeable for eight days, in the urine for three weeks. A careful study of the case led the author to the conclusion that he had to do with a case of chronic ulcer of the stomach, which resulted in severe hemorrhage, then in perforation and circumscribed peritonitis, and, finally, a rupture of the pus sac into the colon and the pelvis of the left kidney.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Suture of Vessels, Transplantation of Vessels and Replantation of Amputated Extremities.—HOEPFNER (*Archiv fuer Klinische Chirurgie*, Band lx, Heft 2).—This extensive experimental article is almost sensational in character, and is, to say the least, fraught with decided interest. The author's method of making end-to-end anastomosis between arteries is to bring the central stump through a magnesium ferrule, and then turn back the vessel like a cuff over the end of the ferrule, so that the endothelium is on the outside; now, the end of the distal stump is drawn over the other and a ligature tied around the whole, thus bringing endothelial surfaces in contact. He did twenty-eight of these. In some cases the magnesium tube was disintegrated within two weeks, while in others it lasted many months. In four out of six simple anastomoses the result was perfect; in the other two a thrombosis of the vessel took place at the site. One of the most interesting experiments was as follows: Three centimeters of carotid and a like amount of femoral artery were excised from the same dog and each anastomosed into the area which the other had occupied, with the interesting result that both healed into their new positions and functionated normally. Next, the same experiment was tried on two dogs, the carotid of one replacing the femoral of the other; here the result was only partially successful; the new femoral became thrombosed while the new carotid did perfectly, and when laid bare at the expiration of forty-five days pulsated normally.

The author gives as his conclusion that anastomosis after this method of Payr should be the operation of choice in injury to more than half the circumference of an artery. The transplantation of sections of vessels is to be thought of where the removal of tumors necessitates the removal of segments.

Most interesting of all, a hind leg of each of three dogs was amputated; then the femoral artery and vein anastomosed and the sciatic nerve, as well as the muscles and skin, sewn together. One dog went bad from the beginning, the second kept up his circulation for five days, but on the fifth a phlegmon formed and the vessels rapidly became thrombosed, while in the third the result was all that could have been desired. The replanted leg was in perfect condition up to the eleventh day, when the animal was killed by an accident. In order to keep him still while the bandage was changed, chloroform was administered and the animal succumbed to its effect. All the tissues were found nicely healed together and the vessels free from thrombi. The novelty of the article surely recommends it as worthy a perusal in the original.

Three Cases of Bi-Sacculated Hydrocele.—MARTIN (*Archives Provinciales de Chirurgie*, Tome xii, No. 9).—Since there are but thirty of these cases on record,

Martin considers it of importance to publish these three. As early as 1777 the English surgeon, Percival Pott, gave us the first description of this condition, and no better one has been furnished to the present day. The explanation for the formation of such a sack is believed by our author, with Duplay, to be a collection of fluid in a preformed tunica vaginalis, the upper extremity of which has become previously closed. The upper sack is said by Martin to be merely a diverticulum which happens to lie within the abdomen.

The diagnosis is made by observing the ordinary hydrocele and feeling that there is an intra-abdominal tumor connected with it along the course of the inguinal canal. The treatment which has been successful in all of the author's cases has been a complete dissection of the two sacks, with a consequent suture of the pillars of the ring, just as in an ordinary hernia operation.

The Operative Treatment of Umbilical Hernia.—WARREN (*The Boston Medical and Surgical Journal*, October 8, 1903).—Warren makes the superficial incision in the median line, but unites all the deeper structure in such a way that the deeper sutures close the wound at right angles to the axis of this incision. He sews with silk the edges of peritoneum, fasciæ and skin separately, and excises a considerable portion of the subcutaneous fat. The shape of the hernial opening has taught him that the greatest tension is to be expected in the transverse direction, hence the upper and lower edges of the wound must be sewn to one another if the best results are to be secured. In eleven cases operated upon by this method there has been but one recurrence during a time after operation of from one to thirteen years. The author remarks that the prognosis of the formerly much-dreaded cases of this kind now approaches that which can be guaranteed in inguinal hernia.

A New Modification of the Maydl Operation for Congenital Extrophy of the Bladder.—BORELIIUS (*Centralblatt fuer Chirurgie*, No. 29, 1903).—This original idea of implanting the trigone in the rectum is the only one which can lead to a functional result; still it must be kept in mind that the danger of an ascending infection is ever present. The modification which the author advocates is the manufacture of an anastomosis between the two limbs of large intestine which are stretched by drawing out the portion to which the new attachment is to be made. The idea, of course, being to short circuit the feces and prevent the current from passing over the mouths of the ureters. Two cases are reported: in one no anastomosis was made and the patient died a few months later from an ascending infection. This new idea was carried out in the other case and all is still well, though a comparatively short time has passed as yet.

An Improvement on the Borelius Modification in the Maydl Operation.—MUELLER (*Centralblatt fuer Chirurgie*, No. 33, 1903).—The author considers it impossible to completely divert the fecal current in the manner above proposed, though he admits that this may be accomplished in part and the danger thus be diminished. He considers it far better, in this direction, to sever the bowel just above the point at which the trigone has been implanted, and then to sew the distal portion as high as possible onto the anterior abdominal wall, after which the end of the proximal segment is implanted into the side of the other, as low as possible.

Modification of the Maydl Operation.—BORELIIUS (*Centralblatt fuer Chirurgie*, No. 37, 1903).—It seems to Borelius that the Maydl procedure alone is about all that a patient can stand without adding what Mueller proposes.

General Anesthesia in Operations About the Face.—OMBREDANNE (*Gazette des Hopitaux*, No. 109, 1903).—It has been common to use one of the ordinary masks

for this purpose, and thereby the anesthetist has been constantly in the way, while the asepsis has been rendered doubtful. Where a small compress has been applied during the actual time of the operator's work, it has been impossible to keep up anything like a uniform anesthesia, hence we are ready to welcome any device which brings the vapors of the drug directly into the air passages without interfering with the field of operation. The author has used, with perfect results, a small device which is introduced into the patient's mouth after he has been rendered unconscious by the use of an ordinary mask. This consists of a sort of obturator of metal that fits between the lips and teeth in such a manner as to completely obstruct the mouth; to the center of this is fitted a long rubber tube, at the other end of which there is a sponge, to be kept soaked with the anesthetic. The nares are plugged and then all is ready for work. Of course, the tongue cannot be grasped with a forceps, but as the author mentions, this is rarely necessary if only the angle of the jaw be well supported. The apparatus can be easily slipped out in case of vomiting, and after being cleansed can be re-inserted at a moment's notice. The apparatus has given excellent results in a number of cases involving the face.

The Pathology of the Subcutaneous Ruptures of the Gastro-Intestinal Tract.—SAUERBRUCH (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Band xii, Heft 1).—In this very long and instructive article the author seeks to divide these injuries into several different kinds and to arrive at the mechanical moment responsible for this or that special kind of injury. He first takes up "crushing" of the bowel, and cites a large number of cases illustrating this class of injury. The reason that the intestine is seriously injured by a crushing blow upon the anterior abdominal wall is that it comes against the unyielding spinal vertebræ, while the explanation for the fact that the anterior parietes are not hurt lies in the circumstance that they rest on the air cushion which the hollow viscera furnish. It is then self-evident that meteorismus tends to prevent just this sort of injury to the bowel itself.

"Bursting" of the bowel is next considered. Here the main causal factors are high tension within the gut, and a condition in which the escape of gas or fluid from either end of the segment is for the moment impossible. This last condition is easiest brought about by pressure on the wall of the abdomen causing strangulation of the intestine or closure of a segment. In a number of experiments made upon the stomach, where these conditions can easily prevail, the author always succeeded in bursting the lesser curvature. Such a result was, however, found to be impossible after gastro-enterostomy had been made.

"Tearing the bowel from its attachment by traction" is next considered. Here, as a matter of course, two forces working in different directions, are necessary. In one case the horn of a cow caught the relaxed abdominal wall, and, without tearing it, managed to hook around the invaginated tissues a loop of small bowel, and to tear it from the mesentery. This rare form of accident has been known to occur, where a man fell from a great height with his intestines filled with fluid feces. The fall was suddenly interrupted, as a matter of course, but the weight of the bowel with its momentum being thus brought to bear upon the point where the mesentery is fixed to the spine, was sufficient to tear loose the attachment of the mesentery.

The size of the rupture has much to do with the symptoms which are presented when the accident occurs. Shock and hemorrhage are decidedly greater when the new opening is large, while, as might be expected, there may be the escape of no contents in a very small rupture, something which we often see exemplified when mucous membrane plugs the hole made by a bullet.

Ectopic Spleen in Consequence of Malarial Enlargement.—POZZI (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 29).—The mass

was so low down in the abdomen that a diagnosis of uterine tumor was made. But at the operation there was found a tumor wrapped in omentum, with a large vascular pedicle coming from above, the whole resembling a floating kidney, though, interesting to state, it was impossible to tell just what it was on the operating table. The whole was removed, and on microscopical examination traces of splenic tissue were found, so all uncertainty was cleared up. It is not without interest to relate in this connection that the woman after recovering and leaving the hospital, poisoned herself with mercuric chloride, and at the autopsy which followed, the spleen was found to be absent. This case has its chief interest in the fact that a diagnosis was impossible even after the abdomen was open.

Notes on a Case of Fusiform Aneurism Treated by Matas' Method.—MORRIS (*Annals of Surgery*, October, 1903).—By this interesting operation Morris succeeded in constructing some three inches of arterial channel through a fusiform aneurism. After the sack had been opened and clots evacuated, he sutured together the walls of the lower portion of the sack, in such a way, with chrome-gut, that the channel above referred to was left. A second row of stitches reinforced the first, and when the blood was let back into the old course no leakage occurred. The sack was left in place, and after superficial suture the wound healed in its entirety. Before the operation there had been great disturbance of function in the operated side, this having been a popliteal aneurism; but after the wound healed there was complete physiological restoration in the arterial regions previously affected.

The Consequences of Ligating the Femoral Vein Below Poupart's Ligament.—HALBERSTAEDTER (*Beitraege zur Klinischen Chirurgie*, Band xxxviii, Heft 2).—The author asks himself the question, why is it that the ligation of the femoral vein in a young vigorous person leads to gangrene of the leg sometimes, while the same thing can be done occasionally in an emaciated old man without the slightest ill-effect? There seems to be two reasons for this: in the first place, there are not regularly present collateral ways for compensation to take place, and in the second place there are usually valves in the existing collaterals which must be overcome before the stream can flow backward, as is necessary if compensation is to occur. Now, the anatomy of the valves shows them to be very inconstant, hence they can be overcome in one case much easier than in another; which would in itself explain the matter. Unfortunately, however, we have no means of telling accurately in advance just which patient possesses perfect valves and which can stand ligation of the vessel in question. The author has seen one case in which gangrene occurred, and finds in the literature fifty-four cases reported, with but two such accidents. Where the femoral artery is ligated at the same time, there is much greater likelihood to gangrene; since it is only by a high intravenous pressure that we can hope to overcome the valves and see compensation established; this is directly combated by ligation of the artery. Further circumstances which favor collateral circulation are the removal of the shortest possible segment of the vein, and the greatest protection, in other ways, of all the collateral veins.

A Few Complications of the Artificial Anus and Their Treatment.—GERAUD (*Revue de Chirurgie*, No. 8, 1903).—There are two general causes of all the disorders which come under this class, viz., infection and a transformation of the mechanical order of things—that is, extrusion of the bowel or its mucous membrane. The author considers the former a more common accident than the latter. It is of course a combination of intra-abdominal pressure and peristalsis which leads to this accident. Soon ulceration of the mucous surface is likely to occur in either form of the trouble and then an inflammatory thickening of the bowel

wall leads to the necessity of its excision. The protrusion of one limb is about as frequent as that of the other, and it must be admitted that protrusion of the mucous membrane generally precedes a like trouble of all the coats, which latter is usually sudden and occurs as a result of some violent effort. One case is on record in which the affection subsided spontaneously, though this were hardly possible in case the incision had been long a potent factor, by the way, in the etiology. Strangulation of a prolapsed segment is not uncommon and a case is recorded in which there was a hernia of a second loop into the already prolapsed one. The principal treatment concerns itself with prophylaxis—that is, the patient must void feces in the horizontal position and without too much effort, but before this comes the matter of establishing the artificial anus in such a manner that there shall be no leakage and the least possible tendency to herniation.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Permanent Results of the Internal Therapy of Gastric Ulcer.—JOHANNES SCHULZ (*Die Heilkunde*, 1903, p. 337).—In 1896 at the Medical Congress at Breslau, v. Mikulicz discussed the question whether in severe and obstinate cases of gastric ulcer, surgical intervention was justified even when there was no immediate danger to life. In this connection he reviewed the results of internal treatment and was forced to the conclusion that no reliable data exist on this point. According to the available statistics he concluded that the mortality of unoperated cases lay between 15 and 50 per cent. and probably averaged 25 or 30 per cent. In the discussion, most of the internal medical men held that 15 per cent. should be considered the maximum mortality in gastric ulcer. The same difference of opinion appeared when v. Leube discussed the surgical treatment of gastric ulcer, at the German Surgical Congress in 1897. V. Leube analyzed a material consisting of four hundred and twenty-four cases treated internally by him. Of these he reported 74 per cent. as absolutely cured, and 21.9 per cent. as greatly improved, while 16 per cent. were not improved, and 2.4 per cent. died. Of one hundred and ninety-five cases in which the diagnosis was unquestionable, the mortality was 4.1 per cent. On the other hand, v. Mikulicz rejected these figures and insisted upon the existence of a mortality of 25 to 30 per cent.

In view of this difference of opinion, the late Prof. Kast, chief of the medical clinic at Breslau, inaugurated an inquiry into the ultimate fate of patients with gastric ulcer, the results of which are now published by his assistant. The material comprises two hundred and ninety-one cases treated at the university clinic in Breslau and at the general hospital in Hamburg. Of these, information that could be used was obtained concerning one hundred and fifty-nine cases. Only those cases were included in which there was observed both pain and bloody vomit, as in these the diagnosis seemed most positive. The minimum time of observation was six months, though in many cases it extended over many years, up to twenty-four. A case was considered cured when after a period of at least six months since his discharge, neither the eating of heavy food nor severe physical labor had brought on a relapse. Of two hundred and ninety-one cases treated internally, 57 per cent. had been discharged cured, 32 per cent. much improved, 5.5 per cent. not improved, while 5.5 per cent. died. The permanent results in the one hundred and fifty-seven from whom reports were received were as follows: 53 per cent. entirely well; 24 per cent. slight distress; 15.4 per cent. with continued suffering, and 7.6 per cent. dead. Of the 77 per

cent. who were reported cured or nearly so, 17 per cent. (*i. e.*, 13 per cent. of the whole number) had had a relapse, from which, however, they had recovered entirely or nearly so.

The conclusions to be drawn from these statistics are: 1. The immediate results of the therapy of gastric ulcer give no reliable data as to the permanent results of the treatment, since after an interval of six months or over, the per cent. of those greatly improved falls from 89 to 77, while the per cent. of those not improved rises from 11 to 23. 2. That nevertheless the mortality of gastric ulcer cannot be called a high one (7.6 per cent.), and that v. Mikulicz's estimate of 25 to 30 per cent. is not borne out by the facts.

Concerning Intestinal Disinfection.—SCHAFER (*Wien. Med. Pr.*, 1903, No. 18).—The cases of enteritis so frequently observed in penitentiaries are chiefly due to the unaccustomed diet and mode of life. The causes that lead to these disorders cannot well be eliminated and recourse must be had to medicinal treatment. The writer has obtained good results from ichthalbin, especially in mucous diarrheas. He gives 2 g. (3ss.) three times daily.

The Treatment of Acute Opium Poisoning.—JOHN SLADE ELY (*Yale Medical Journal*, October, 1903).—It is still generally believed that in opium poisoning the coma is the chief element of danger. It is for this reason that strenuous efforts are often made to keep the patient awake, a course of treatment that only exhausts him and is usually unsuccessful. The writer believes, in accordance with the best physiological and pharmacological information at our disposal, that the coma of opium poisoning has no destructive effect *per se*—that the failure of respiration which follows is not its result, but a concomitant expression of the action of the poison on the respiratory center in the medulla oblongata. Though the primary effect of opium in man would appear to be exerted on the cerebrum, in this action there is no direct menace to life. It is only when its action extends to the respiratory center that life is threatened.

It has long been known that the action of opium on the heart, even when administered in large doses, is insignificant. There is indeed usually stimulation rather than depression. The correctness of this view is indicated by the behavior of the heart in severe and fatal cases of opium poisoning. Here it has been repeatedly observed that the heart has continued to beat regularly and with good force even up to the time of complete cessation of respiration and has seemed ultimately to fail only as a result of the respiratory failure. This is most strikingly shown in a case of the writer, of profound opium poisoning which ended in recovery. In this case, for more than six hours after cessation of spontaneous respiration, and during continuance of artificial respiration, the heart continued to beat with good strength. Whenever the artificial respiration was stopped the heart failed, and on several occasions the patient became almost pulseless at the wrist, but with the resumption of the artificial respiration the regular strong beat of the heart returned in each instance. There are many similar cases on record in which artificial respiration has supported the action of the heart and in which a similar dependence of the heart action upon the respiration has been noted. We may, then, consider it as clearly established that in acute opium poisoning, death is the result primarily of paralysis of respiration. In a considerable number of cases of profound opium poisoning in which artificial respiration has been the only treatment, recovery has resulted.

Since Vogt, in 1875, demonstrated the presence of morphine in the stools of a morphine habitue, the view that morphine is excreted primarily by the digestive tract has received abundant proof. The stomach plays the chief role in the process. In dogs the stomach contents contain morphine two and a half minutes after the hypodermic administration of the drug. The excretion into the stomach continues actively for half an hour, more slowly for another half hour

and then ceases. The same phenomenon has been observed in man. It would seem, then, that the gastric mucous membrane is an active excretor of morphine, that the excretion begins almost immediately and when the stomach is repeatedly washed ceases in about an hour, presumably because in that time most of the morphine in the body has been eliminated. If not removed by lavage, however, the morphine excreted into the stomach passes down into the intestine and is there reabsorbed with a resulting continuance of the toxic action. The vomiting of opium poisoning is probably a conservative effort on the part of the body.

Rational treatment of poisoning of any sort resolves itself into antagonism of the lethal action of the poison and obtaining of speedy elimination of the poison from the body. The above considerations indicate that in opium intoxication the former indication is best met by artificial respiration and the latter by repeated gastric lavage, and that no matter how the drug has been administered. Of the pharmacologic antidotes the only rational one is permanganate of potassium. It has been shown that the latter possesses a peculiar selective action upon morphine, oxidizing it to the harmless oxydimorphine. The gastric lavage is probably rendered more efficient if a dilute solution of permanganate is used instead of plain water. Whether the hypodermic administration of permanganate will oxidize the morphine present in the circulation, while possible, is still open to doubt.

Finally, the writer urges that the conservation of the patient's strength is of the greatest importance in opium poisoning. Accordingly there should be avoidance of every unnecessary measure tending to exhaust him and to diminish his vital power. For this reason the practice of walking the patient up and down the room, flagellations and the many other means so frequently employed to keep him awake should be abandoned.

Concerning the Utility of Iron Therapy.—E. BIERNACKI (*Wiener Med. Wochenschr.*, No. 18-20, 1903).—The writer has studied a large number of cases of various kinds of anemia, investigating not only the variation of the amount of hemoglobin during the administration of iron, but also the number of blood corpuscles and the amount of dissolved solids in the blood. His conclusion is that only in chlorosis is the administration of iron of real value. In other anemias little is to be expected from this therapy. In particular, that large number of neuropathic individuals who, though very pale and having many of the symptoms of anemia, show nevertheless no real impoverishment of the blood, is injured rather than benefited by iron medication. The wide-spread custom of prescribing iron in all cases of marked pallor without ascertaining whether the condition of the blood demands such treatment, is earnestly to be condemned. When indicated, as in chlorosis, iron should be given in large doses. Small doses, as, for instance, in the use of chalybeate waters, serve no useful purpose.

The Internal Treatment of Dupuytren's Contracture.—LEUGEMANN (*Deutsche Med. Wochenschr.*, No. 23, 1903).—The operative treatment of Dupuytren's contracture is not always satisfactory, even when all the scar-bands are extirpated. Accordingly, the writer tested in Prof. Mikulicz's surgical clinic the absorbent effect upon scars of thiosinamin. In two cases, one mild and one rather severe, this treatment gave good results: the scar tissue grew softer, the fingers could be extended and the patients regained good use of their hands. To say the least, the results seemed to be as good as are usually obtained by means of operative interference.

The treatment consisted in hypodermic injections of 1 c.c. of the following solution: Thiosinamin, 2.0; glycerine, 4.0; aq. dest., 14.0, into the neighboring tissue. At first the injections were given daily, later weekly. No ill after-effects were observed.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

On a Rapid Method of Staining Neuroglia.—ROY McL. VAN WART (*Johns Hopkins Hospital Bulletin*, No. 150, 1903.)—This method, which will prove to be of immense value, differs from the neuroglia-staining processes so far employed by the fact that it applies the mordant not to the piece of tissue *in toto*, but to the cut section. As mordants Mallory's formula is used in a somewhat modified form and as stain an aniline-crystalviolet solution, followed by Weigert's iodine solution. The tissue (up to ten hours after death) is fixed in 10 per cent. formol and then in the ordinary way imbedded in paraffine. The staining of sections cut from the blocks takes only a few minutes. The neuroglia nuclei and their chromatin and the neuroglia fibres stain a light violet color, the nucleoli of nerve-cells and the endothelium lining the capillaries a similar color. Connective tissue is not stained.

The reviewer has experimented with this method and has had satisfactory results. It is, however, to be mentioned that the intensity of the stain is not very great and differs in that respect somewhat from the depth and sharpness obtained after Weigert's or Benda's (Huber's modification) prescriptions. It has also been noticed that the times stated by the author for mordanting and staining the sections can with advantage be much prolonged; the results are much better when the sections are mordanted and stained for fifteen minutes in each operation. Workers in the histology of nervous tissue will receive the new method as a relief from the valuable but uncertain and tedious processes so far in use.

About the Presence of Bacteria in the Udder of Cows.—V. FREUDENREICH (*Centralbl. f. Bacter.*, Vol. x, No. 13, 1903).—The author examined the udders of a great number of milk-cows, taking the most stringent precautions against all possible sources of error. Not a single gland was found that did not contain larger or smaller numbers of bacteria. Most of the cows examined were in good health and furnished a milk of good quality. The bacteria found were some micrococci, a peptonizing bacillus and now and then the bacterium mycoides and the bacterium lactis acidi. In normal glands the number of bacteria varies considerably. Whether the presence of the bacteria is due to their transport by the blood or whether they enter through the ducts could not be established. It is certain that if bacteria are injected into the duct, they are later to be found all over the udder. On the other hand, in the organs of normal animals (spleen and kidneys) repeatedly the same bacteria were found. These investigations show distinctly how carefully the bacteriologic examination of milk ought to be estimated as to its meaning. More stress ought to be laid on the differentiation of the various forms; the estimation of milk according to the number of bacteria alone means nothing except for concerns where at high expense it is attempted to preserve the original condition of milk. Here the number of bacteria ought not to exceed much that found at the time of milking. Except under these conditions no milk will be found on the market containing during the warmer months less than 50,000–100,000 bacteria to the cc.; this does not mean that the milk is unfit for use. The number must increase considerably higher before an influence on the constitution of the milk is to be noticed.

Cytodiagnosis.—B. CZERNO-SCHWARZA, u. Z. BRONSTEIN (*Berl. Klin. Woch.*, No. 34–35, 1903).—In view of the exaggerated importance that has lately been

bestowed on the so-called cytodiagnosis of fluids removed from the body-cavities, a subject that has come into prominence, mainly through Widal and his followers, the above paper is very valuable. It reduces the value of the method to its proper sphere and in the hand of careful personal observations shows up its limitations and dangers. Among careful observers, of course, all the objections raised were well known and appreciated, but they have never been presented in their entirety in such a complete review as the authors give. The fallacies in diagnosis arising from the varying periods in which the fluids in a single case are examined do away even with the most vaunted advantage of the method—the demonstration of a tuberculous origin. The authors deny that the practical value of the method is really great, that we are enabled by it to make a correct diagnosis, or that it will assist us to recognize a condition where other clinical symptoms are as yet indefinite. It will never be an essential feature of our clinical methods of examination.

The Formation of Specific Anti-Bodies After Cutaneous Infection.—F. KASTEN (*Deutsch. Med. Woch.*, No. 36, 1903).—Hoffmann had demonstrated that rubbing in on the razed skin of rabbits the living typhoid cultures resulted in the production of agglutinins in the serum of the animal and that the quantity of this substance so obtained could equal that after intraperitoneal injections. Kasten, under the direction of Kolle, has repeated these experiments and confirmed them. Not only agglutinins, but bactericidal anti-bodies could be obtained by this method with a concentration almost that of those produced by subcutaneous or intravenous treatment. His main effort was to elucidate in what way the bacteria under these circumstances succeeded in introducing into the body the specific substances (their ambceptors). Very careful investigations proved that at no time and in no case could any bacteria be found within the tissues. Microscopically and culturally the result was always negative. Thus it appears that the bacteria rubbed on the skin die in the most superficial layers of this organ. Since the substances stimulating the anti-body-formation are contained in their dead bodies, they must become liberated in those layers and are resorbed in the lymph spaces. The great resorptive power of the skin facilitates this process. That this explanation is correct, Kasten demonstrates by the observation that dead bacilli, too, applied in the same way bring about the same result. The degree of agglutinative power was even higher than that in cases where living bacilli were used, while for the bactericidal substances the opposite relation obtained.

The Production and Nature of Streptocolysin.—G. T. BUEDIGER (*Journal Amer. Med. Ass.*, October 17, 1903).—The author calls with this name a substance that is found in the filtrates of virulent cultures of streptococci made in a mixture of human and of rabbit serum. Why this name is used and not the correct one, streptococcolysin, is not explained; the word selected by the author is a barbarism. This substance hemolyses blood-corpuscles of various animals and of man; it is inactivated by heating to 70° C. for two hours. Its character is not that of a complex hemolysin, but is said to be analogous to the tetanus and diphtheria toxin! The experiments adduced to confirm this assertion will be hardly sufficient as proof. If this should be the case, the production of anti-toxin would have been possible. Altogether it seems that this hemolytic substance will prove to be one of those well-known bacterial hemolysins, that in other bacteria have been found and studied with a totally different result about their character.

About the Origin of Pulmonary Tuberculosis and the Fight Against Tuberculosis.—E. v. BEHRING (*Deutsch. Medic. Wochenschr.*, No. 39, 1903).—This paper, read before the naturalists' convention at Cassel, is an inspiring contribu-

tion to the subject of tuberculosis, and its positive and apodictic language insinuates itself to the reader to the degree that on many sides absolute allegiance to the author's position will be sworn. It cannot be denied that if all of Behring's assertions prove to be true, we will have to remodel our conceptions altogether about the origin of pulmonary tuberculosis. That means, if they are true! Unfortunately, in many respects the positive opinions of Behring are based on questions that so far cannot be considered as solved and around which just now a very active battle is waging. There is nothing in this paper that would even hint at the fact that the author is in possession of material fully proving his theory.

First of all, and this is the main issue, Behring accepts openly the identity of bovine and human tuberculosis. Although the general trend of thought, as we well know, favors this conception, we must certainly admit that so far no single absolute proof for its truth exists, and, impartially judging, we must declare that so far nothing has been brought out of a convincing nature contradicting the position taken by Koch some years ago. Even if single cases should become known opposing Koch's views, they could be only considered as exceptions confirming the rule, in view of the universal dissemination of typical human tuberculosis. The open acceptance of this axiom (for nothing else it is) is the first point that invalidates the argumentation of Behring.

Aside from this opposing view, Behring accepts the great importance of tuberculin for diagnostic purposes and accepts the results obtained by its administration in determining the absolute dissemination of tuberculosis infection as final. As to the origin of the infection, we touch the pivoting part of the paper. Its essence can be expressed in the sentence that "the milk (breast and cow's) fed to babies is the main source of infection." It is today almost ridiculous to remind one that the idea of the appearance of an open tuberculosis being a recent infection has long since been abandoned; although we listen to the story of the patient of an acquisition of a cold or gripe we pay little attention to it. Autopsy work has uniformly shown that there is hardly a single human being living that does not carry within him a focus of tuberculosis; the percentages are lowest in the very youngest individuals, but become almost uniformly high as the age of puberty is attained. Infants less than a year old give a very low percentage, and it is hardly conceivable that tubercle bacilli should exist in them, without causing macroscopical or microscopical lesions, the more so since we know that infantile tissues when infected before or very shortly after birth allow the typical changes of tuberculous infection to occur with tremendous energy and distinctness.

Behring bases his assertion on certain differences in the histologic structure of the lining membrane of the intestinal tract of infants and of older humans, which really exists and can be demonstrated microscopically and biologically. It is Behring's merit to have called attention to this fact and thus to have explained why babies nursing the milk of immunized mothers are themselves immunized, the antitoxin being present in their blood. This factor has lately been receiving extensive attention in regard to the difference of natural and artificial feeding, it being established that a new-born infant takes up the mother's proteids without enzymotic disintegration, because they are homologous to it, while the bovine proteids have to be assimilated by fermentative processes, being heterologous. At the same time Behring has demonstrated that in the same way as proteid-molecules pass the mucous membrane directly, bacteria also penetrate, and has proved this by feeding the micro-organisms to new-born animals. This is very important, but the fact remains that in infants up to one year tuberculous lesions are only rarely found, certainly more rarely than would correspond to the later percentage of tuberculous infection. As already said, it is impossible to imagine that tubercle bacilli could lodge for a year or more in some tissue without evidencing their pathogenic character. But it might be possible!

The picture drawn by Behring of this infant-infection receives, however, a marring, if we remember that the peculiar structure of the mucosa of the digestive tract persists only for a short time, in very small animals, perhaps three weeks, in infants certainly not longer than a very few months. Six months babies show a mucosa not differing histologically from that of the adult, and the direct proof for the physiologic alteration is given by the observation that one week guinea-pigs, having nursed a mother not immunized, will not show antitoxin in their blood when put into the care of an immunized animal. With regard to tuberculosis in the human race, the infection therefore ought to occur always in almost every individual during the first or second month of life, which is a thing that is hard to believe. Certainly the proofs for this teaching have not yet been furnished. Of course this consideration does not detract from the importance of the truth that the real infection occurs most likely in the majority of cases very early in life, and only later under especial conditions (the acquired disposition of Behring), makes itself felt. But to assume that such an event is absolutely the law for the origin of pulmonary tuberculosis seems very unlikely. The question, whether an inhalation (primary) tuberculosis can be proven, may be set aside here. But that primary infection in later life can occur and does occur frequently is not to be doubted. Behring himself ought to have stated this, as the fresh infection is typically and energetically demonstrated in every herd of normal milk cows to which a tuberculous companion is added. With the general dissemination of tuberculous infection in human beings, such a proof could never be conclusive, a defect in the reasoning which must expressly be stated.

Behring sees a bright future for the immunization of infants by the administration of milk of immunized animals. In the first place, we know too little of tuberculosis-antitoxins, and even Behring's experiments on calves cannot be considered as final, to build hopes on this possibility. In the second place, such a protection could only be effective during the very first weeks of life, the time when everybody ought to strive to furnish the young its natural food. Behring only shortly deals with the subject of vaccination, but it is sure that a real relief will only be obtained by it, and everything that lately has developed points in this direction.

Behring's paper bristles with numberless interesting ideas on other sides of the tuberculosis question and will certainly give a great impulse to further investigations. To be accepted in its general foundation as the course that this investigation necessarily will have to take seems not to be justified as yet, on the ground of insufficient scientific evidence for this foundation.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Incarceration of Portions of the Omentum in the Uterine Cavity after Perforations with the Curette. Remarks on the Prevention and Treatment of Such Perforations.—OTTO KUESTNER (*Monatsschr. f. Geburtsh. u. Gyn.*, August, 1903).—CASE 1.—Patient thirty-seven years of age. Nine full term confinements, several abortions. One curettment six, another two years ago. At the time of the second curettment, she observed that the operator became very nervous about some incident, but she could not ascertain the cause of his alarm. Uninterrupted recovery. Ever since irregular hemorrhages, of late very profuse. With the uterine sound irregular prominences are felt in the uterine cavity. Vaginal hysterectomy advised. During operation a very firm adhesion of the

omentum to the fundus uteri was found. Opened, the uterine cavity was found filled with fat tissue, being in direct connection with the point of the surface where the adhesion was separated.

CASE 2.—On July 24, 1901, vaginofixation for retroflexion of the uterus successfully performed. Latter part of 1901 curettment is performed by country physician for irregular menstruation. January 23, 1903, the writer was again consulted for irregular hemorrhages. Curettment advised.

Microscopical examination of the scrapings shows edometrium intermixed with typical fat tissue. The author, having in mind the first case, assumes perforation of the uterus at the first curettment with prolapse of the omentum into the uterine cavity, and, therefore, recommends vaginal extirpation of the uterus.

The operation proved the wisdom of his diagnosis.

Perforation of the uterus can with certainty be avoided, if the uterus is appropriately dilated, so that no force is necessary for the introduction of the curette, if Roux's curette is used, and if the length of the uterine cavity is measured before the curette is introduced. A strict observance of these rules is indispensable in cases of puerperal or carcinomatous uterus, or if there is any suspicion that at the time of a previous curettment the uterine wall was grossly injured.

Perforations of the uterus by means of sounds and curettes are certainly rather common. The outcome of the accident is mainly dependent upon the asepsis of the operator. Sometimes the hemorrhage may be very severe and require operative interference.

Hard and fast rules for the treatment cannot be laid down. The writer suggests, however, immediate vaginal hysterectomy in all cases of carcinomatous uteri, on account of the eminent danger of septic infection of the peritoneal cavity, and in probably aseptic cases, vaginal celiotomy (anterior colpotomy) and suture of the opening with catgut.

One Thousand Cases in Students' Outdoor Obstetric Practice.—JOHN P. WINN (*Jl. Am. Med. Ass.*, October 3, 1903).—This article proves convincingly the great benefit derived from conservatism in obstetrical practice. In one thousand cases of labor the forceps was used in but twenty-six instances; an extremely low figure, if one considers that all these cases were attended in outdoor service. The exceedingly favorable result of the work (four cases of septic infection, five deaths in all) is due to a careful asepsis as regards the hands of the students and the instruments, and to the writer's emphatic warning to the students against unindicated operative interference. Neither *ante partum* nor *post partum* douches were employed.

Intractable Vomiting During Pregnancy.—F. LA TORRE (*La Clinica Ostetrica*; rev. *Jl. of Obstetr. of Brit. Emp.*, September, 1903).—The writer believes that the condition depends upon a lesion of the cervix uteri, and by a reflex action sets up a gastric disturbance. Clinically he divides the vomiting of pregnancy into three stages: (1.) a period beginning at about the end of the first month, characterized by greater or less matutinal nausea, with some loss of flesh if the vomiting be excessive; (2) in the second period the circulation becomes disturbed, and emaciation rapidly occurs, emesis is practically continuous, there is revulsion of food, the tongue is dry and rose-colored and there is a progressive loss of strength; (3) in the third, serious phenomena supervene, and there may be delirium and coma. In this stage the emesis may diminish, and the dislike to food may disappear. Death is usually ushered in by coma.

For treatment the writer employs local and general means. No food or medicine should be given by the mouth. Nourishment should be administered

per rectum, ice should be applied over the spine, and if the nervous manifestations be acute, chloral or morphia should be given. As a local remedy the author strongly recommends tampons of 20 per cent. ichthyol in glycerine to be applied to the cervix uteri. This acts as an emollient, as an antiseptic, as an analgesic, and by its hygroscopic action the glycerine removes from the tissues of the cervix a large quantity of fluid, thus lessening the pressure and irritation of the uterine nerves.

Successful Removal of a Cystic Fibro-Myoma of the Uterus Weighing Eighty-Seven Pounds.—J. CLARENCE WEBSTER (*Jl. of Obstetr. of Brit. Emp.*, August, 1903).—The following points from the history of this remarkable case are noteworthy: Patient was forty-one years old. The tumor had grown to its immense size within ten years. After menstruation the patient has frequently observed some diminution in the size of the swelling and some relief as regards her discomfort. There has been no appreciable change in her general nutrition. Menstruation became profuse only recently. There has never been any dysmenorrhea. She was never pregnant. At the time of the operation the greatest girth of the abdomen was found to be exactly five feet.

The operation lasted two hours and a half. During the first hour no anesthetic was used except the Schleich mixture for infiltration of the skin. During the remaining one hour and a half only six drams of chloroform were employed. After the operation the patient's pulse was 74. She made a normal recovery.

The tumor was a multilocular cystic fibroid uterus, weighing eighty-seven pounds. At the time of operation the weight of this tumor was just about that of the rest of the patient.

The occurrence of such a large uterine tumor is very rare; successful removal much more rare. There are hardly a dozen cases recorded in literature in which the tumor weighed more than seventy-five pounds.

In the writer's opinion the success in this case is due to the following facts: To careful preparation of the patient prior to the operation, to heat applied to her body during operation by means of an electric pad, to the slight loss of blood and to the small amount of anesthetic administered. The article closes with a strong plea for a more extensive use of the Schleich infiltration anesthesia in abdominal work.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Congenital Gastric Spasm.—WEST (*Archives of Pediatrics*, October, 1903) after reviewing the literature on congenital pyloric stenosis, finds that two classes of cases are described. In a very few cases there has been found, post-mortem, hyperplasia of the epithelium, increase of connective tissue in the submucous and of fibrous tissue in the muscular coat, in addition to hypertrophy of both the longitudinal and circular muscular layers. The presence of the abnormal tissue sooner or later causes a true stenosis.

In the other more numerous class there is found only hypertrophy of the circular muscular layer, the stenosis which undoubtedly exists being due almost entirely to spasm of the hypertrophied muscle. This latter class should be designated by the title congenital spasm.

Clinically, both types present similar symptoms and both may have a palpable tumor, gastric peristalsis and dilatation. A few cases of spasm have been

relieved by careful diet treatment, but it is not to be expected that true stenosis can be relieved except by surgical intervention. It would seem best, therefore, that all cases should be operated on if a palpable tumor presents.

The details of a case of the second class with typical autopsy findings are appended.

Physiological Limits of Hemoglobin and Number of Blood Corpuscles in Childhood.—As a result of the careful study of the blood from 155 healthy and thirty-one sick children, using the usual methods of examination, Anna Perlin (*Jahrbuch fuer Kinderheilk.*, September, 1903) comes to the following conclusions:

The hemoglobin content is highest in the first three days of life, 116-119 per cent. From the fourth day on there is a steady decline, so that the minimum is reached at the end of the first year, 58-78 per cent. From the second year the hemoglobin begins to rise steadily (not falling below 70 per cent. after the fourth year), to the fifteenth or sixteenth year (74-88 per cent.).

The red blood count is highest in the first week (5,280,000-7,550,000), and begins to fall by the eleventh day. At the end of the first year it reaches its minimum (4,200,000-5,300,000). Then it rises gradually to the fourth year (4,750,000-5,600,000), remaining about stationary to the eighth year. Then a gradual rise takes place to the sixteenth year (4,800,000-6,000,000).

The white blood count is highest in the first two days (15,800-19,000). It sinks gradually to the fourth year (8,240-13,400), remains about stationary to the eighth year, and then falls until the sixteenth year (7,000-9,220).

In the sixteenth year the hemoglobin and the red and white counts seem to approximate the adult form.

Prophylactic Use of Diphtheria Antitoxin in School Children.—CALLE (*Archives of Pediatrics*, October, 1903) advocates an immunizing injection of antitoxin once or twice during the school year—for instance, in November and February—with the hope of preventing infection with primary diphtheria and croup, and furthermore with the hope of lessening the mortality of the severe forms of scarlet and measles complicated by diphtheria. It is well known that the cases of scarlet complicated by diphtheria from the beginning are often very grave. So, too, the cases of measles complicated with diphtheric croup show a very high mortality.

The author believes that the mortality from these mixed infections could thus be markedly reduced. In his experience the plan has proved perfectly feasible, and would be of great value for communities in which diphtheria is endemic or epidemic.

Scarlet Fever.—BAUM (*Journal American Medical Ass'n*, October 10, 1903) summarizes the hospital cases of scarlet seen by him during the years 1896-1903. There were 628 cases, 307 males, 321 females, with 44 deaths (7.07 per cent.). Of the complications, suppurative otitis media occurred 11 times, nephritis 47, pneumonia 19, arthritis 2. In 35 per cent. of all cases there was some pain in the ear. Albumen was present in 37 per cent. of all cases during the early stages, though only 7.6 per cent. showed true nephritis. In three cases there was present at the beginning, or on the second day of the eruption, a septic nephritis, with much albumen and many casts. These cases were all fatal.

Most of the nineteen pneumonias involved the upper lobes; bronchitis, with broncho-pneumonia at times, was present in nearly all severe cases.

Two cases showed severe arthritis; in twenty-one other cases there was slight joint swelling unaccompanied by other symptoms.

There were 142 cases of mixed infection (22.7 per cent.). In the mixed infection the mortality was 11.9 per cent.

Of these mixed infections ninety-six were cases of diphtheria, though in many cases the diphtheria appeared as a secondary infection during early convalescence.

There were twenty-nine cases of complicating measles, thirteen of varicella, three of parotitis and one of diphtheria and measles.

Concerning diagnosis, the author says that drug eruptions, as caused by belladonna, quinine, copaiba, chloral and opium, as well as toxic erythemata, must be considered. A point of diagnostic importance in this connection is that the glandular swellings, characteristic of scarlet, are missing. The drug eruptions may, however, be accompanied by fever. Cases of rubella are at times mistaken for scarlet, but in this condition the rash is always measly, never confluent.

After reviewing the literature concerning the specific etiological factor of scarlet, Baum concludes that no definite proof has yet been brought forward that any one of the organisms is the actual cause of scarlet.

(In the discussion which followed the reading of this paper, Schamberg called attention to a point of diagnostic value concerning the desquamation. In scarlet there is a tendency for the desquamation of the epidermis to split just beneath the free border of the nails, the epidermis then peeling off down the finger and exposing the pink skin beneath. This usually occurs on the tenth-fourteenth day. He called special attention to the difficulty (and prophylactic importance) of recognizing the mild or typical cases.

Weiss stated that in mild cases he has noticed a rash in and below the inguinal folds, below Poupart's ligament, having a burnished aspect. He thinks that this sign may be important.)

Acute Serous Meningitis in Childhood.—BECK (*Jahrbuch fuer Kinderheilk.*, September, 1903) reviews the literature on this subject and reports five additional cases. This condition, which has only been recognized as a clinical entity in recent years, is comparatively rare. It is a serous inflammation of the pia mater, as a result of which there ensues an inflammatory edema in the subarachnoid spaces or in the ventricles.

Two forms are recognized: *M. serosa externa*, in which the brain and pia are the seat of the serous inflammatory edema, and *M. serosa interna*, in which the ventricles are chiefly involved (*hydrocephalus acutus*).

The symptoms of the condition are not always definitely marked, and the differential diagnosis between it and suppurative or tubercular meningitis, at times impossible.

The onset is often gradual, with malaise, anorexia and digestive disturbances. The temperature is usually not particularly high, the pulse somewhat rapid and irregular.

Increase in the circumference of the head is a constant and marked symptom. The sutures are widened and the fontanelles stretched. Cerebral symptoms, dullness, restlessness, strabismus and nystagmus are almost the rule. Optic neuritis usually sets in early.

The course of disease is usually protracted, with, at times, remissions followed by exacerbation of symptoms, although very often the fever does not persist.

Lumbar puncture in these cases shows a clear fluid, of low specific gravity, containing little albumen. Except for a few blood cells, it contains no morphological elements, no bacteria.

The specific etiological factor of this disease has not been absolutely determined. The author believes that serous meningitis is always bacterial and caused by definite organisms, though these cannot always be demonstrated. (Quinke denies the bacterial origin of *M. serosa* altogether.) The author does not agree that because the bacteria cannot be demonstrated, the disease cannot be of bac-

terial origin. It is conceivable (and according to him probable), that after infection there occurs a process of bacteriolysis, so that only the bacterial toxins circulate in the blood.

ORTHOPEDICS.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

Double Congenital Dislocation of the Hip.—M. FROELICH (*Revue d'Orthopedie*, September, 1903).—Subtrochanteric oblique osteotomy, Kirrmisson's operation, was performed in two cases. One, a child nine years old, with marked lordosis and adduction so that the knees crossed; walking was practically impossible. The second case, seven years old, had one side anchylosed and walking was impossible. The adductors on one side were divided subcutaneously, and the subtrochanteric osteotomy performed, when the upper end of the lower fragment was allowed to slip in between the trochanter and acetabulum. There was some extension used while the leg was fixed, abducted in a plaster cast. In both cases the second operation came two months after the one side had been fixed. The result in both cases was excellent. The lordosis was corrected, the length of the limbs only slightly altered, and locomotion was excellent. A third case, a girl seventeen years old, is added by the editor; operated similarly nine months before, with satisfactory results.

Congenital Luxation of the Ankle.—A. H. FREIBERG (*Annals of Surgery*, October, 1903).—Only one ankle was deformed, and the child, which was two years old, was able to walk, but complained of pain after use. The external malleolus was wanting, and there was a convex curve outward in both bones, making the articular surface of the tibia oblique. The foot was normal. No disease of bones was present, and the condition was thought to be due to the pressure of a too narrow amnion.

The Handling of Certain Chronic Joint Affections.—MAX SCHUELLER (*Die Med. Woch.*, 1903, No. 30).—The tubercular, syphilitic and neuropathic joints are not considered, but he takes up the treatment of the joints, which he groups into three classes: (1) Chronic rheumatism, the chronic form of the acute rheumatism, a synovitis with definite symptoms, but not corresponding to either of the following: (2) Arthritis deformans, with depositing of lime salts; later deformity, with changes in the cartilage and bone. (3) The fringe-producing polyarthritis or synovitis chronica villosa, in which the bones and cartilages are not changed, but the synovial membrane produces large or small swellings caused by a bacillus discovered by the author. Diet, massage, baths, etc., are recommended for all forms in the beginning. For the synovitis chronica villosa, operation is recommended if the symptoms are severe and the patient is young enough. Out of 220 cases he operated 22 times; 16 times on the knee, and 7 of the patients were between four and fifteen years. The joint is opened freely, the tags cut off, and the cavity swabbed with guaiacol-iodoform glycerin emulsion (1:5:100), and the wound closed. On the tenth day massage is begun. After three or four weeks the joint is used. If not so severe a condition exists, the guaiacol-iodoform glycerin emulsion is injected into the joint, and the synovial fringes are said to shrink. One injection of from one to five grammes is sufficient, but it may be repeated after five or six days. The joint is not used for several days after the injection.

Cause and Treatment of Hammer-Toe.—A. PERASS (*Brit. Med. Jour.*, August 29, 1903).—This deformity is thought to be caused by a paralytic contracture due to some cortical lesion, as evinced by the usual bilateral arrangement; also borne out by two of his cases in which the condition began in infancy and was accompanied by a distinct stammer. The operation advised is a modification of Terrier's. On the convexity of the toe he makes a semi-lunar incision and turns back a cutaneo-tendinous flap, incises the capsule and lateral ligaments of the joint between the first and second phalanges, isolates the first phalanx, and cuts off a sufficient portion of the head. He then cuts the flexor tendon through its insertion and turns back the tendon between the phalanges, and sutures it to the flexor tendon, thus creating an equilibrium between antagonistic muscles. Callosities are removed and the wound sutured.

Congenital Elevation of the Scapula.—ALBERT MOUCHET and P. CLEMENT.—The literature is reviewed and the 62 cases (8 bilateral, 54 unilateral) are the basis of the observations. The division into simple elevation, elevation with rotation of the lower angle inward, and elevation with changes in form of the scapula and extra bone formations, is accepted, but Sprengel's theory of uterine compression is not credited as much as Guerin's theory of arrested development. The operative treatment is only employed in those cases where there is a bony change, either an exostosis of the superior angle or the osseous prolongation of the superior angle which articulates with the spine, or when, for an esthetic reason, the whole bone is lowered on the chest. Ordinarily, massage and gymnastics are sufficient for functional cure, either with or without a corset that holds the scapula in place. Subcutaneous myotomy is discouraged, as the condition is too complex for relief from small measures, and if operation is attempted it is advised to make the Zucker-Kandl incision along the upper edge of the scapula, divide the trapezius, remove the supero-internal angle with rongeur forceps, slide the scapula downward on chest, and put up in plaster with the arm elevated to 180°. After operation is healed, begin gymnastics.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Chorea and Graves' Disease.—SUTHERLAND (*Brain*, Summer, 1903).—The nature of the association between chorea and Graves' disease is still under discussion. All are agreed that movements of a choreiform type are sometimes manifested in Graves' disease. Two cases in which Graves' disease followed chorea are described. In the first patient the effects of the prolonged attack of chorea had never quite passed off and palpation and trembling existed for some time before the cardinal symptoms of Graves' disease became very marked. The theory is advanced that in as much as the pathology of this condition is as yet entirely unknown, it is possible that they depend upon a somewhat similar affection of the central nervous system and that in childhood they produce the symptoms of chorea, while in early adult life it is manifested by the group of symptoms known as Graves' disease. Clinically they present many similarities. There is in both an inherited neuropathic tendency. In many cases there is a history of rheumatism and heart disease. The immediate attack in both is frequently some sudden shock to the nervous system, such as fright, disappointment, emotional experience.

The Use of Wet Packs in the Treatment of Psychoses.—KNECHT (*Psych-Neurologische Wochenschrift*, No. 22, 1903).—Attention is called to the use of the wet pack in certain psychoses accompanied by states of excitement. The author believes that this form of treatment has not received the attention it merits. The pack is prepared in the following way. It takes, in the hands of an experienced nurse, only two minutes: A double woolen blanket is placed upon the bed. A sheet wrung out in cold water is placed over this. The patient lies upon this sheet which is folded around him, leaving the feet and arms uncovered. The sheet is folded around the legs so that there is no part of the skin uncovered. A second sheet is wrapped about so that the arms and shoulders are covered. The woolen blanket is now folded and pinned together. The patient is allowed to remain in the pack about two hours, he is then dried and allowed to sleep. This treatment is found to be of value in all sorts of maniacal conditions accompanied by motor unrest in chronic alcoholism with neuritic symptoms. A high grade of arterio-sclerosis and uncompensated heart lesions are contraindications to this form of treatment.

The Sign of the Orbicularis in Peripheral Facial Paralysis.—DR. GEORGE W. JACOBY (*The Jour. of Nerv. and Men. Dis.*, October, 1903).—There has always been a divergence of views as to the course of the central neurones of the facial apparatus. All of our knowledge has been derived from anatomical and experimental observations. Clinical study has failed to cast any material light upon the subject, because all deductions from clinical observation were dependent upon the assumption that in facial paralysis, due to central affection, the temporo-facial branch of the facial nerve was not involved, and that in ordinary hemiplegia the upper part of the face entirely escapes being paralyzed. More recent clinical observations have, however, shown that the assumption of non-involvement of the upper facial in hemiplegia is a mistake. The recognition of this long-dominant error is due in great part to the sign of the orbicularis. This name was first suggested by Revilliod to describe a symptom which consists in the inability of a hemiplegic voluntarily to close the eye upon the paralyzed side except in conjunction with the other eye. A number of typical cases are described by the author, and upon them the following conclusions are based:

CONCLUSIONS.

1. The statement of Bard, that the sign is invariably lacking in peripheral facial paralysis, and is, therefore, a distinguishing mark of central affection, is incorrect.
2. The presence of the sign in peripheral paralysis is further proof of the existence of commissural fibers between the nuclei of the seventh nerve.
3. This sign is of clinical value in so far as its presence in peripheral paralysis shows that complete recovery has not yet occurred.
4. The secondary overaction in the orbicularis palpebrarum, which is late in appearance and always coincides with some recovery in power, does not occur in those cases in which the sign, having been present, has passed away.

The Abductor Reflex.—SCHULLER (*Neurologisches Centralblatte*, No. 20, 1903).—In cases of increased reflex activity there is to be seen a typical reflex obtained by tapping the external condyle of the femur. This is followed by a contraction of the pector fascia lata and the gluteus, and sometimes by a contraction of the most anterior portion of the gluteus maximus. The reflex is best obtained when the patient lies on his side and one examining hand is placed between the trochanter major and the ilium. Now, if the external condyle is tapped the contraction of the above muscles can easily be felt. The center of this reflex lies probably in the territory of the 4th and 5th lumbar and the 1st sacral segment. The centrifugal path of the same is in the superior and inferior gluteal.

A Contribution to Our Knowledge of the Course of the Lymph Stream in the Spinal Roots and Cord.—DAVID ORR, M. D. (*Review of Neurology and Psychiatry*, October, 1903).—The following is a resume of a case upon which the conclusions of this article are based: A woman, aged thirty-one. She came to the hospital in a very excited condition, which condition existed with an occasional relapse for three months. In the fourth month a small abscess developed in the right axilla with enlarged glands around. There was at this time much atrophy of the body muscles generally. A specimen of blood was examined and typical colonies of the staphylococcus pyogenes aureus were cultivated. After a period of apathy with a temperature of 102 degrees she died. At the autopsy there were found infarcts in both lungs and abscess in the right kidney and in the central nervous system there was unusual pallor of the gray matter. Around the trunks of the brachial plexus there was a moderate quantity of pus.

CONCLUSIONS.

1. Although bacteria have little tendency to spread along the nerves, their toxins can be carried in the lymph stream and exert their influence some distance from their source of origin.

2. In the spinal roots the flow of lymph is upwards towards the cord.

3. Of the lymph flowing up the posterior roots, the greater part passes into the posterior columns, while a small quantity flows into the lymphatic spaces of the pia-arachnoid covering the posterior and lateral regions of the cord.

4. Where the fibers entered the cord, at which point their sheath and neurilemma are lost, they are specially vulnerable to the influence of toxins in the lymphatic system of the roots and meninges. This applies to both sensory and motor nerves. The last two conclusions are important in view of the recent opinion expressed by Marie and Guillain on the etiology of tabes, viz., that this disease is due to a lesion—probably syphilitic—of lymphatic system constituted by the posterior roots, pia and cord.

5. The course of the lymph stream in the posterior columns is ascending.

6. The lymphatic system of the posterior columns does not communicate with that of the lateral columns.

GENITO-URINARY SURGERY

IN CHARGE OF

H. McC. JOHNSON, M. D.

Calculous Anuria: Its Diagnosis and Treatment.—CABOT (*Ann. Surg.*, October, 1903).—In this article Cabot treats most excellently of the various phases of calculous anuria, the reported cases, methods of diagnosis, treatment, etc., and reports two very interesting cases in which there was complete stoppage of the urine by ureteral calculi, which were made to pass into the bladder by opening the kidney and manipulating (stripping) the ureter. The stones were later removed from the bladder with the Bigelow evacuator. The author suggests external manipulations early in the attack to assist the stone along the ureter, and this may occasionally bring about a cure. It is interesting that in case 1, where subsequent to operation a stone became lodged in the ureter, it was forced on to the bladder by external manipulation.

A New Method of Performing Perineal Section Without a Guide.—GIBSON (*Ann. Surg.*, October, 1903).—By experimentation upon the cadaver it was found that sharp traction on the prostate made the deep urethra taut to a degree that renders its recognition unmistakable and gives one an immediate and absolute control of the situation. The traction is exerted downward and somewhat backward.

The author gives the following technique: Lithotomy position. Thorough preliminary irrigation and cleansing of the rectum. A suitable speculum, preferably Kelly's, is introduced and the prostate is *transfixed* laterally from the rectum, preferably by a large sharp hook, which is driven firmly through the prostatic tissue. The speculum is now withdrawn, leaving the hook *in situ*. Median perineal section is then performed, the incision being extended down to the ordinary depth of the situation of the urethra. The left forefinger is now introduced into the wound. As the assistant executes a series of gentle tugs on the hook, one readily receives the sensation of the intermittent tension of the urethra in response to the traction on the prostate. Keeping the forefinger in place, the surgeon directs his bistoury into that portion of the deep urethra which is thus rendered prominent; the probe pointed director readily glides along the knife into the lumen of the urethra, and following it the small metal catheter will demonstrate the successful access to the bladder. The performance of these various steps requires only a minute or two. This procedure is not recommended as a routine practice, but is of service in special cases. The danger of infection of the prostate from it is counterbalanced by its usefulness, in some cases.

Treatment of Gonorrheal Urethritis by Ichthargan.—RYCHNER (*Ann. des Mal. des Org. Genito-Urin.*).—A study of the use of ichthargan in gonorrheal urethritis was undertaken by the author, who, in summing up his cases, says that it is a good antilennorrhagic agent, but in nowise takes the place of the time-honored remedies.

Sterility from Obstruction at the Epididymis Cured by Operative Means.—MARTIN (*N. Y. and Phil. Med. J.*, October 10, 1903).—Having demonstrated upon dogs that the operation was feasible, the author performed it upon a suitable azoospermic man. This is the operation: Under ether the vas of the left side was freed at about the level of the top of the testis, and by means of a sharp-pointed pair of scissors, a slender bistoury, and a grooved director, such as are used by ophthalmologists, its lumen was opened by a longitudinal cut a quarter of an inch long. The epididymis was then approached from the outer side, and its entire length was exposed. An incision into the tail failed to show the presence of a milky fluid, though cover-glass preparations subsequently examined demonstrated a few spermatozooids in the expressed fluid. A portion of the head was then picked up in a toothed forceps and excised. A few minute, whitish drops at once appeared on the resulting cut surface, made up in the main of spermatozooids, some of which, when examined fifteen minutes later, were motile. Into the wound of the epididymis the vas was implanted by means of fine silver wire sutures carried on small face-needles from the outer surface of the vas into its lumen; thence from the cut surface of the opening made into the epididymis through its fibrous tunic. A suture was placed at either end of the vas incision, and the latter was held open by two other sutures, one to either side. The skin was closed by catgut. The dressing slipped the next day, exposing the wound, which became infected and suppurated superficially. Semen, twelve hours old, sent for examination eighteen days later, showed the presence of spermatozooids; not so plentiful as usual, but very actively motile.

Sixteen days after the operation the patient resumed marital relations, and two hundred and eighty-one days later his wife was delivered of a normal girl baby, exhibiting an almost ludicrous resemblance to her father.

Edebohls' Operation of Decapsulation of the Kidney for the Cure of Chronic Bright's Disease, and the Indications for its Performance.—TYSON (*N. Y. and Phil. Med. J.*, October 10, 1903.)—After reviewing the work done by Reginald Harrison and the publications of Edebohls in this line, Tyson reports his experience in one case. This case had general anasarca with ascites, albuminuria and casts. The edema was extreme. Medical treatment not only failed to benefit her, but left her so weak that it was thought unwise to operate on both kidneys at once, and accordingly at the first operation only the right kidney was decapsulated. In the first twenty-four hours after the operation the quantity of urine secreted was only twenty-one and one-half ounces, but in the second twenty-four hours it reached forty-two and one-half; in the third, seventy-two and one-half; in the fourth, one hundred and two; in the fifth, sixty-three ounces, and in the sixth, sixty ounces. In ten days after the operation ascites and anasarca had entirely disappeared, and remained so. Two months after the first operation the left kidney was decapsulated. After this operation the albumen and casts decreased in quantity somewhat and the patient later looked the picture of health. While it cannot be said that there has been a cure, and it is impossible to say that there will be, yet there can be no doubt the patient's life has been saved, and apart from the urinary evidence, she is seemingly in perfect health. Six months later she had one-third volume albumen and a few hyaline casts in the urine, and was the picture of health.

Some very interesting explanations are given by Tyson which lead him to believe that the benefit in those cases comes from the relief of renal tension, as suggested by Harrison. The author is satisfied that the operation is a serviceable one, and that many lives may be saved and prolonged, and even cures obtained by its judicious application. He regards parenchymatous nephritis more favorable for operation than interstitial, and is pessimistic about cases with extensive cardiovascular changes. The operation may be of value in idiopathic hematuria. Above all, let a competent kidney surgeon be the operator.

A Case of Diffuse Gonococcus Infection of the Entire Upper Extremity.—POWERS (*Med. Rec.*, October 3, 1903.)—A man, twenty-eight years old, nine days after the onset of gonorrheal urethritis, developed pain and swelling about the right elbow. The swelling rapidly increased until the entire upper extremity was largely swollen. Six days from the beginning of the inflammation of the elbow, incisions made about it liberated clear fluid, with the exception of one incision just below the external condyle, where there was pus. The presence of gonococci were demonstrated. In spite of active treatment, two years later the following condition exists: The circumference of the limb at the middle of the arm and at the middle of the forearm is considerably less than on the opposite side. The shoulder-joint is free and useful. The elbow-joint is nearly fixed, it is at an angle a little within a right angle. Flexion and extension can be made over an arc of perhaps ten degrees. Pronation and supination of the forearm are nearly complete. There is a pretty good range of motion at the wrist-joint. The index finger is fairly useful. The other fingers are pretty stiff. Motion in the thumb is good. The thumb can be made to approximate the index finger very well and the middle finger quite well. The back of the hand is still a little puffy. There has been little or no improvement during the last few months. The general condition is excellent; the urethra has given no trouble.

The author dislikes the term "rheumatism" for these metastatic processes, and says septicemia expresses the condition better. A very complete resume of the literature is then given.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Experiments Upon the Bacteriology and Serumtherapy of Syphilis.—CH. FOUQUET (*Gazette des Hopitaux*, October 10, 1903).—The bacteriology of syphilis comprises three grand divisions:

1. Researches into the pathologic agent in the production of syphilis in man.
2. Experiments upon the inoculation into animals.
3. The discovery of a preventative or curative serum—that is to say, serumtherapy.

The author goes over the voluminous literature but fails to comment decisively upon the numerous candidates brought forward as the pathologic factor in the causation of syphilis. He dwells upon the experiments of Roux and Metchnikoff, who inoculated a young female chimpanzee upon the mucous membrane of the vagina three times with syphilitic virus. This was followed by an ulcer which Fournier, Hallopeau and others pronounced a hard chancre. Afterwards the animal presented an eruption and other signs of syphilis. Has a reactive animal to syphilis then been found?

The question of serumtherapy is also *in statu quo*. In these serum experiments three principal methods have been employed:

1. The serum of animals naturally refractive to syphilis has been the first to be employed. Richet and Hericourt experimented with the serum of dogs, Tammasoli with that of lambs, Kollmann, Istomanoff that of calves, Mueller Kamburg that of horses.

2. The immunity of animal serum has been, theoretically, re-enforced by injecting the animal with serum taken from a syphilitic subject. Although animals are refractory to syphilis, yet it may not be impossible that we may confer upon them an increased immunity by this procedure. Chickens are refractory to tetanus, yet after injecting into them a certain quantity of the culture of the bacillus of Nicolaur and their toxines, they produce a preventative and curative serum. G. Mazza injected the blood of syphilitics into animals. Gilbert and Fournier injected the blood of syphilitics into the skin, peritoneum and inserted syphilitic chancres into the cellular tissue.

3. Finally the the third method which seems to unite most of the partisans and to appeal to the greatest number consists in the employment of a serum or liquid made by the syphilitics themselves.

Pallizarri and Rochon injected the serum of syphilitics in the secondary or tertiary periods; Bonaduce experimented with the serum of newborn syphilitics; Piccardi the serum of pregnant syphilitics; Tammasoli and di Giovanni injected the ascitic fluid of hepatic syphilis; Moore, the amniotic liquid of a syphilitic; Boeck the hydrocele fluid accompanied by a specific epididymitis.

Unfortunately all of these experiments have not produced the serum whose results will replace the classical mercury. These serums have given some results which can be attributed to their tonic and regenerative properties, etc., the effect of all serums. Mercury yet remains the specific for syphilis.

Some Remarks on the Pathological Action of the Roentgen Rays, with Special Reference to the Literature on the Subject.—J. M. H. MACLEOD (*Brit. Jour. Derm.*, October, 1903).—The author formulates from his survey of the literature the following tentative propositions as fairly representative of the present state of our knowledge of the subject:

(a) That the x-rays in small doses have a stimulating effect on the elements of the healthy skin.

(b) That large doses, by long exposures, close proximity of the tube to the skin, or the employment of soft tubes, the rays are capable of devitalizing the tissue elements, interfering with the process of reproduction and causing their degeneration; and that this power is the result of a direct specific action of the rays.

(c) That the more highly differentiated structures, such as the hair follicles, glands, nails and blood vessels, are more readily and severely affected by the rays than the less differentiated epidermal cells on the fibrous stroma of the cranium.

(d) That pathologically altered cells, whether of epiblastic or mesoblastic origin, are far less resistant to the rays than healthy cells, and are devitalized with small doses of the rays; and that this destructive action on diseased elements may be taking place while the healthy elements in the neighborhood, instead of having their vitality inhibited, may be stimulated to a process of repair.

(e) That the action of the rays is cumulative and that when the cellular degeneration reaches a certain degree the toxic products of the breaking-down cells are capable of setting up an inflammatory reaction which is a secondary phenomenon.

(f) This inflammatory reaction is peculiar in that it occurs in a tissue the vitality of whose various elements has already been impaired by the action of the rays, and in that it is associated with greater destructive changes than those produced by the actinic rays and is apt to lead to ulceration and necrosis, and is liable to be followed by an imperfect process of repair.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

On Anesthetizing the Upper-Air Passages in the Tuberculous.—POLLATSCHEK (*Die Therapie der Gegenwart*, September, 1903) states that the changes in the upper-air passages, especially those of the larynx, are very important factors in the course of pulmonary tuberculosis. He believes that the cause of the cough in fully 70 per cent. of the phthisical cases can be found in upper-air passages. Aside from the unpleasant conditions which result from an insufficiency of the nasal respiration, there are certain changes in the pharynx, such as pharyngitis sicca, granulosa and lateralis, which give rise to a feeling of foreign body, tickling and dryness in the throat, while the changes in the larynx, such as a catarrhal laryngitis, especially a posterior laryngitis, can give rise to an almost unbearable itching in that locality. The specific lesions are often very annoying and frequently interfere with the taking of nourishment. He also calls attention to the fact that we frequently find marked changes in the larynx when there are no subjective symptoms whatever.

For the past year Pollatschek has been experimenting with anesthesin for the relief of the above mentioned conditions. His results have been very satisfactory in all the cases (350). The following emulsion injected directly into the larynx or used as an inhalation gave the best results:

R	Menthol	1.50
	Pulv. gummi arab.....	
	Ol. amygd. dule.....	
	Aqua dest.....	aa 10.0
M.	f. emulsio, adde:	
	Anesthesin.....	3.0-4.0-5.0
	Spirit vini cone	40.0
	Aqua dest	65.0

The anesthetic effect lasts from three to thirty hours and at times for several days. At no time did he notice any symptoms of intoxication.

The Importance of the Surgical Treatment of Chronic Middle-Ear Suppuration.—DENCH (*Medical News*, October 17, 1903).—In a very instructive paper, read before the New York Clinical Society, Dench discusses the importance of the surgical treatment of chronic middle-ear suppuration. He refers to the pathological records of Pitt which show that out of 9,000 consecutive autopsies held at Guy's Hospital, death was due to aural suppuration in 57 cases or one out of every 150, and those of Gruber, of Vienna, which show 232 deaths to be due to the same cause out of a total number of 40,073, or one in every 173. The author's own statistics show that out of 64,000 cases 218 had intracranial complications. The writer believes these figures to be fairly accurate and that not only the aural surgeon, but the general practitioner as well, should appreciate the grave menace to life which a purulent otitis causes, and to protect his patient in every instance, by the early institution of such measures as may completely eradicate the disease in question.

Detailed histories of several cases are given, illustrating the importance of surgical interference in these cases. A description of the radical operation as performed by the author with a report of his results is also given. Mention is made of the simpler surgical procedures and their comparative value. In conclusion, he states that: in all cases of persistent and profuse aural discharge the radical operation is the operation of election. In cases of recurrent aural discharge, associated with lesions of the upper-air tract, this tract should first be put in normal condition.

In cases of persistent but slight discharge from the ear, the operator may advise the removal of the ossicles, together with thorough curettage of the middle ear through the external auditory meatus. It should always be explained to the patient, however, that this operation is a tentative one, and that the more radical procedure may be necessary later.

Treatment of Certain Affections of the Upper-Respiratory Tract, Especially of Vaso-Motor Rhinitis, by Hot Air.—LARMOYEZ and MAHU (*Laryngoscope*, September, 1903).—At the International Congress of Medicine, August, 1900, the authors published a new treatment for certain affections of the upper-respiratory tract—in particular, vaso-motor rhinitis and hydrorrhœa nasalis, viz., the treatment by means of hot air. At the last Medical Congress at Madrid they report that this method of treatment has been tried by others and the results confirmed. The writers claim that they can now count in hundreds their cases of permanent cures of vaso-motor rhinitis of all degrees—from congestive rhinitis, with alternating obstruction, sometimes accompanied by tubo-tympanic catarrh, up to hypertrophic rhinitis and hydrorrhœa nasalis. At the present time they consider the hot-air treatment a specific for the last named disease. All obstructions, such as spurs, deflections, polypi or irreducible hypertrophy of the turbinals, must, of course, be first removed.

An Operation for Removing the Tonsils.—STEISS (*Medical Record*, October 3, 1903).—For the removal of tonsils in those cases in which a considerable portion of all of the tumor is enveloped in the pillars of the fauces, and in those cases in which adhesion bands pass from the pillars to the tonsils the tonsillotome is unsatisfactory. In these cases the author recommends the use of a hook-like knife modeled from the strabismus knife with a longer and stouter handle and with a knife edge on the concavity and the end of the hook. The patient being under a general anesthetic is placed on the side with the head somewhat lowered, the finger of the operator is passed over and around the lower tonsil to detect

any pulsating vessels, the tonsil is then seized with a volsellum and drawn toward the opposite side. The described hook-knife is then passed between the tonsil and the anterior pillar of the fauces just beneath the basement membrane of the tonsil, care being taken that it is not passed into the tonsil mass, but beneath this basement membrane. The finger of the operator is then introduced into the wound, and making sure that pulsating vessels cannot be felt and using the finger as a blunt dissector, the mass is turned out, thus having its attachment only to the posterior pillar and by mucous membrane only, which is divided by an ordinary blunt-pointed bistoury. Hemorrhage is free at first but ceases promptly. If any bleeding vessels are present they are seized with the forceps and treated as in any other locality. When removed it will be found that the base of the tonsil is covered by a thin membrane and that the dissection has been carried out entirely outside of the tonsil. Without turning the patient the other tonsil is removed in the same way.

Nasal Dysmenorrhea.—OPITZ (*Berliner Klinische Wochenschrift*, September 14, 1903).—After discussing the elements of suggestion in the cocaineization of the genital spots in the nose in cases of dysmenorrhea the author reports a case in detail in which the possibility of suggestion can be eliminated. The case was that of a young girl who had suffered intensely at her menstrual periods and after having her nose operated upon (removal of enlarged middle turbinates) for the relief of nasal stenosis, her mother called attention to the fact that she had noticed that since that operation had been performed the girl was entirely free from pain at her menstrual periods. A few months later the pains began to return again. An examination of the nose revealed that the stump of the middle turbinate was again pressing on the tuberculum septi. Further operative interference was refused.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

The Bacteria Concerned in the Production of Eye Inflammations.—R. L. RANDOLPH (*Jour. A. M. A.*, October 3, 1903).—Up to the present time there have not been found any bacteria pathogenic only for the eye, though the possibility of there being such bacteria is suggested when we think of sympathetic ophthalmia and trachoma. The bacteria of the eye belong exclusively to the group of parasites.

The *Micrococcus Epidermidis Albus* and the Xerosis bacillus are almost constantly found in the normal conjunctival sac. Under favorable conditions they may give rise to severe inflammations. The same is true of the colon bacillus, which is ordinarily innocuous. The "element of pathogenicity" is most marked in the diphtheria bacillus, gonococcus, Week's bacillus, pneumococcus, diplobacillus of Morax-Axenfeld, tubercle bacillus, streptococcus and *Staphylococcus Aureus*. The streptococcus may be wholly avirulent, or may produce an intense reaction, as in streptococcus diphtheria of the conjunctiva and in Parinaud's conjunctivitis. A "co-operative agency," often an abrasion or injury of the epithelioma, is necessary before the organisms are capable of doing harm. The absence of suppuration following penetrating wounds is due partly to the natural resistance of the eye, partly to the feeble pathogenic properties of bacteria normally resident in the conjunctival sac. However, ordinarily harmless bacteria may, under the favoring influence of lowered local resistance, become pathogenic by the mere fact of enormous multiplication.

The writer believes that the normal conjunctiva is capable of coping with its bacterial enemies, and suggests that certain bacteria may perform important functions in the life of the normal conjunctiva.

Unilateral Exophthalmus in Basedow's Disease.—J. BISTIS (*Arch. d'Ophtalm.*, July, 1903).—According to J. Terson, Basedow's disease may safely be assumed in the presence of bilateral exophthalmus associated with the signs of Stellwag and v. Graefe, despite the absence of tachycardia and thyroidal hypertrophy. In three cases reported by Bistis, exophthalmus was confined to one side, and there was no enlargement of the thyroid gland. In all three cases the diagnosis was based on tachycardia, the signs of v. Graefe and Stellwag and the exclusion of local conditions in the orbit as the possible cause of the exophthalmus. The writer concludes that the presence of the three cardinal symptoms, bilateral exophthalmus, tachycardia and thyroidal hypertrophy, is not essential to the diagnosis. Unilateral exophthalmus may be an early symptom, and as such is important from the standpoint of early treatment.

Tumors of the Conjunctiva.—E. A. SHUMWAY (*Journal A. M. A.*, Sept. 26, 1903).—Tumors of the conjunctiva are infrequent but of great variety. The malignant growths are represented by carcinoma and sarcoma, which are clinically often indistinguishable. They occur in patients over forty, and usually at the corneo-scleral limbus. Carcinoma originates from true papillae arising from the conjunctiva surrounding the limbus, and grows superficially on a broad base. Growth is usually slow, but ultimate penetration of the globe is to be expected if the tumor is not removed. The stroma is sometimes pigmented.

Sarcomatous growths are usually pigmented, and develop from pigmented nevi (pigment spots), which consist of polygonal cells imbedded in a groundwork of subconjunctival tissue. The tumor is soft, vascular, sometimes pedunculated, shows little tendency to invade the globe and is generally of slow growth. Epibulbar sarcomas are highly malignant. Microscopically, sarcomas are readily distinguishable from carcinomas by the fact that in the former the surface epithelium passes smoothly over the growth in contradistinction to the latter, where the epithelial cells of the tumor are derived from the surface epithelium. Primary sarcoma of the conjunctiva of the lid, lympho-sarcoma of the semilunar folds and fornix are rare. Amyloid and hyaline degeneration of hypertrophied adenoid tissue of the transition folds occurs in amyloid degeneration of the conjunctiva. Primary carcinoma and sarcoma occur occasionally on the caruncle.

The benign growths are either congenital or acquired. The former are sessile, whereas the latter are polypoid and pedunculated. Of the congenital forms, dermoid tumors are the commonest. Microscopically, they contain various skin elements. They occur on the temporal side of the corneo-scleral junction as flat, dull, white firm masses, often covered with fine hairs. Lipoma occurs in the outer angle between the insertions of the superior and external recti muscles. Small bits of true bone tissue—osteomata—are very rare, and occur in the supero-external portion of the eyeball.

The polypoid form of the acquired benign growths may be accounted for by the constant movement of the eyelids. True polyps, such as are found in the nose, etc., do not occur.

Fibromas are represented by two forms, soft and hard. The former arise in the fornix, are pedunculated and vascular. The latter originate in the palpebral conjunctiva and caruncle, and are poorly supplied with blood vessels.

Granulomas "develop in places where a superficial loss of conjunctival tissue has existed." They are composed of naked masses of free granulation tissue.

The broad, flattened papillæ, which occur on the tarsal conjunctiva and about the limbus in spring catarrh, are histologically closely related to the fibromas.

Papillomas, which are fairly frequent, are distinguished from fibroma by the raspberry-like surface of the former. They occur chiefly in the neighborhood of the caruncle and semilunar fold, and may be either flat or long and pinnated. Occasionally they undergo carcinomatous degeneration.

Adenomas may arise from the tubular gland in the caruncle, Krause's glands, Meibomian glands and the modified sweat glands of Moll. They have a tendency to undergo carcinomatous degeneration.

Hemangiomas consist of twisted capillary vessels occurring as round poly-poid growths, and may be congenital or acquired. They occur on the palpebral conjunctiva, in the fornix, on the bulbar conjunctiva and semilunar folds. They may be combined with sarcoma.

Cysts are comparatively rare. Those of the bulbar conjunctiva are dilations of the lymph vessels, are generally multiple and situated near the cornea. Invagination of the conjunctival epithelium may give rise to retention cysts by closure of the opening. Retention cysts also originate from Henle's gland in the fornix and also from the accessory lachrymal glands in this position. They are larger than the lymphatic cysts of the bulbar conjunctiva.

Cysts due to the presence of cysticercus occur as large yellowish vesicles, through the walls of which the embryo may be seen as a white spot.

Treatment of Severe Syphilitic Diseases of the Eye.—A. DARIER (*La Clin. Ophthalm.*, September 25, 1903).—In malignant syphilitic disease of the eye a more intensive mercurial treatment than that usually employed is furnished by the intravenous injection of solutions of cyanide and biniodide of mercury. The method is of especial value in cases of irido-choroiditis, neuro-retinitis and chorio-retinitis accompanied by opacities in the vitreous. One-half to one centigram of an aqueous solution of cyanide or biniodide of mercury is injected intravenously, increasing the dosage daily until the "reaction limit" for the individual, as indicated by gastro-intestinal symptoms, is reached. The dosage is then diminished and again increased up to full tolerance, reaching finally two to four centigrams daily. If improvement is noted, the injections are given every second or third day until thirty to forty have been given. Subconjunctival injections of cyanide, given during the course of the intravenous injections, will increase the therapeutic effect. Treatment is now suspended for a month, at the end of which the patient is given a number of hypodermic injections of pilocarpin. This therapeutic cycle should be repeated twice or thrice in the course of a year. Visual improvement is greatest during the period following the mercurial course. Negative or poor results are due to stopping the treatment on insufficient cause, such as slight intestinal derangement. The writer regards the employment of potassium iodide as harmful in irido-choroiditis and neuro-retinitis.

BOOK REVIEWS.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1903. A Yearly Digest of Scientific Progress and Authoritative Opinions in all branches of Medicine and Surgery, drawn from journals, monographs and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of GEORGE M. GOULD, A. M., M. D. In two volumes—Volume I., including General Medicine, octavo, 700 pages, fully illustrated; Volume II., General Surgery, octavo, 670 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1903. Per volume: Cloth, \$3.00 net; half morocco, \$3.75 net.

The current issue of Saunders' year-book maintains the high standard of excellence which has gained for former issues an enviable reputation among English-speaking practitioners. The editors have endeavored to winnow the grain from the chaff of current literature, and, by judicious critical comment, to further elucidate recent advances in medicine and surgery.

The work comes to us in the same dress as last year—in two volumes, illustrated by many excellent text-cuts and full-page inserts. We hope and believe that this publication will gain an ever-increasing circle of readers.

A TEXT-BOOK UPON THE PATHOGENIC BACTERIA. By JOSEPH MCFARLAND. Fourth edition. W. B. Saunders & Co., Philadelphia. 1903.

The new edition of McFarland's book does not differ from the former ones in its general arrangement. The great progress lately made in many branches of the bacteriologic investigation is well reflected in it; in other words, the book has been made up to date. As it deals only with the pathogenic bacteria, it is, of course, mainly meant to serve for the instruction of medical men; it is not a work on bacteriology. Since this is the case, one remark may be made in reference to the selection of certain bacteria dealt with in the work, as, for instance, is shown by a chapter on measles and on scarlet fever. Bacteriology does not know anything about a bacterial nature of these diseases, and it is simply misleading to review without any criticism the so-called discoveries of specific bacteria in these cases. The chapters ought either to be omitted altogether or accompanied with the necessary explanations. The whole chapters, if they are necessary for completeness' sake, should be condensed to a foot-note.

A TEXT-BOOK OF SURGERY FOR STUDENTS AND PRACTITIONERS. By GEORGE EMERSON BREWER, A. M., M. D. Illustrated with 280 engravings in the text and 7 plates in colors and monochrome. Lea Brothers & Co., New York and Philadelphia. 1903.

This is a handsome volume of moderate size which makes its initial bid for the favor of the surgical public. Because there seems to be a need for a work which is something more than a pocket manual, and still is of smaller size than most of the well-known American text-books, the author has undertaken to give the essential facts of modern surgery, as he says, as briefly as is compatible with clearness. Historical matter has been left out entirely, and there is no discussion of matters which belong within the realm of pathology; in fact, the volume is devoted strictly to a consideration of general and special surgery. Something which the student will welcome is that but one method is given for treat-

ment of most of the surgical diseases; formerly his mind has merely been burdened, often without help being given him as to choice of the numerous methods afforded. There has not been much attempt given to quote the various authors from which the material is taken, credit being given in a general way; it being deemed useless to burden the student with a multitude of names. The cuts, while not exactly works of art, are sufficiently clear and numerous to depict all that is required. While the work is hardly large enough for the average general practitioner, to say nothing of the surgeon, it is admirably suited to the requirements of the student.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., assisted by H. R. M. LANDIS, M. D. Volume III. September, 1903. Per volume, \$2.50, by express, prepaid. Per annum, in four cloth-bound volumes, \$10. Lea Brothers & Co., Philadelphia and New York.

We take pleasure in announcing to our readers that the September volume of this well-known quarterly publication has appeared.

The new volume contains the following departments: Diseases of the Thorax and its Viscera, Including the Heart, Lung and Blood Vessels, by William Ewart, M. D., F. R. C. P.; Dermatology and Syphilis, by William S. Gottheil, M. D.; Diseases of the Nervous System, by William G. Spiller, M. D., and Obstetrics, by Richard C. Norris, M. D.

It is needless to say that this new volume maintains the high standard set by its predecessors.

ORGANIC NERVOUS DISEASES. By M. ALLEN STARR, M. D., Ph. D., LL. D. Illustrated with 275 engravings in the text and 26 plates in colors and monochrome. Lea Brothers & Co., New York and Philadelphia. 1903.

A work on the nervous system, such as this is, has long been looked for by the neurologists. Since Oppenheim's text-book has appeared in a translation, no work has been published which includes the latest results of English and American investigators. This lack Starr's book seems to supply and to supply adequately. The unique and special service of this new text-book consists in the emphasis which is laid upon the surgical side of neurological therapeutics. The anatomy and the neurone conception are treated very briefly, and the latter in a very conservative manner, as is proper just at present, when so much doubt exists as to the correctness of the theory and of the justice of basing a physiology and a pathology upon a theory. For this the author is to be praised, both for his brevity and for his effort to place before his readers only so much of the truth as is actually known. At first sight it appears strange that a considerable chapter is devoted to the neuralgias, which are ordinarily held to be functional in origin. It is a part of the advanced spirit in which this book is written that cognizance is taken of the more recent work on this subject. This work gives ample ground for the assumption of the organic origin of all the more important neuralgias. Considerable space is devoted to the topographical diagnosis of spinal and cerebral processes, and for this the author deserves much credit, for upon a correct localization the success of surgical intervention is dependent. The chapters on locomotor ataxia, to which one naturally turns first, are complete and readable, though offering little that is new. It is certainly an advance however in an American text-book to see an adequate consideration of Redlich's work on the pathology of tabes and of Nageotte's recent studies. The pathology of myelitis is especially well written and presents Marinesco's work in a very clear way. Landry's paralysis is given a separate chapter, though a very brief

one. It is questionable whether it is wise to keep up the tradition of this disease's entity any longer. As might be expected, the chapter on tumors of the brain and cord are very good, and the author's well-known experience is here given welcome space. This book is a notable addition to our text-books and is easily the best that has appeared in America. For the student it is especially to be recommended, and for the neurologist it presents in a brief and in a very attractive way the conclusion of a very wide experience. The plates are chiefly copied, although they are well done; the illustrations are largely from Schmaus and from the Nothnagel monographs. In this lies the chief regret of one who reads Starr's book. The old question at once arises, why is it that with so much clinical experience, no neuro-pathological preparations are shown, which might be as personally identified with the author's work as is the rest of the information which crowds the pages of Starr's *Treatise on Organic Nervous Diseases*.

A TEXT-BOOK OF PATHOLOGY. By ALFRED STENGEL. Saunders & Co., Philadelphia, New York and London. Fourth edition. 1903.

The book of Stengel, owing to its close adaptation to the writings of Birch-Hirschfeld and others, has since the appearance of the first edition taken a front rank in our pathologic literature. The fourth edition deserves this place the more, since it contains the latest results of pathologic investigation. The addition of an appendix, giving the main methods for pathologico-histological investigations, seems unnecessary, since it is too short to be used alone for this purpose, and must be supplemented by other sources that in completeness and correctness cannot be outdone.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Edited by GUSTAVUS P. HEAD, M. D. Vol. viii. *Materia Medica and Therapeutics, Preventive Medicine, Climatology, Suggestive Therapeutics, Forensic Medicine.* 12mo, pp. 326. Chicago: The Year Book Publishers. July, 1903.

The volume is one of a series of ten, issued at monthly intervals, and covering the entire field of medicine and surgery. The series is published primarily for the general practitioner, and the arrangement is intended to be of particular value to him. Thus the chapter of *materia medica* and therapeutics, which occupies the bulk of the book, consists of abstracts of articles on new drugs and modes of treatment arranged in alphabetical order, whereas the chapter on preventive medicine is arranged under the head of the various diseases discussed. The volume well fulfills its purpose as a book for ready reference.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and other topics of interest to students and practitioners. Edited by A. O. J. KELLY, A. M., M. D. Vol. ii, thirteenth series. 1903. 8vo, pp. 311. Philadelphia: J. B. Lippincott Company. 1903.

The volume opens with a symposium of the summer diarrheas of children, by H. W. Conn, Alfred Hand, Jr., A. C. Cotton, Thompson S. Westcott, Matthias Nicholl, Jr., and A. B. Marfan. A very efficient discussion of diseases of the pancreas from the medical side by Eugene L. Opie, and from the surgical side by John B. Deaver and George P. Muller, follows. Professor Bouchard, of Paris, discusses entertainingly the local treatment of rheumatism and tertiary

syphilis. An abstract of this article will be found elsewhere. J. M. Taylor writes concerning the rest treatment, giving the indications and the technique, with all necessary detail. The perusal of his article will be a great aid to all who may occasionally have to make use of this treatment. Articles on medicine, surgery, pediatrics and gynecology follow, and the volume concludes with an interesting and detailed article on the surgery of the ocular muscles, by Professor Landolt, of Paris. There are a number of beautiful plates, among which those illustrating a paper by F. J. Poynton, on endocarditis in childhood, deserve especial praise. The general appearance of the book, its clear, black type, and its opaque, dull-finished paper, are as pleasing as were its predecessors.

DISEASES OF THE EAR. A Text-Book for Practitioners and Students of Medicine.

By EDWARD BRADFORD DENCH, Ph. B., M. D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College; Aural Surgeon, New York Eye and Ear Infirmary; Consulting Otologist to St. Luke's Hospital; Consulting Surgeon to the New York Orthopedic Dispensary and Hospital; Fellow of the American Otological Society, of the New York Academy of Medicine, of the New York Otological Society, of the New York County Medical Society, etc. With fifteen plates and one hundred and fifty-eight illustrations in the text. Third edition, revised and enlarged. New York and London: D. Appleton & Company. 1903.

The third edition of this important work maintains the high grade of merit established in the former editions and in many respects exceeds them. In order to keep abreast of the extensive advances made in otology the last few years the author has completely revised a large portion of this work. The chapters on chronic suppurative otitis media and of the various intra-cranial complications of middle ear suppurations have received special consideration. Stress has also been laid on the operative procedures both major and minor. Detailed descriptions of the various methods with their results are given, especially those which have given the author the best results. The work contains many practical illustrations, a number of new plates which are especially good have been added.

In recommending this work we believe we are recommending one of the most practical works on otology.

A HAND-BOOK OF OBSTETRIC NURSING FOR NURSES, MOTHERS AND STUDENTS.

By ANNA M. FULLERTON, M. D. Sixth revised edition. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1903. Cloth, \$1.00

This eminently practical little book has just appeared in its sixth edition. The methods of procedure advocated in this book are those observed in the Maternity of the Woman's Hospital in Philadelphia. The subject is presented in so complete and clear a manner that this volume will prove a reliable guide for nurses as well as for students and patients.

DISEASES OF WOMEN. A Text-Book for the Use of Students and Practitioners of Medicine. By THOMAS A. ASHBY, M. D., Professor of Diseases of Women, University of Maryland. Williams & Wilkins, Baltimore. Price, \$4.50.

This work presents in a concise and practical way all the subjects embraced in a study of the diseases of women, and seems in its scope well adapted to the needs of the student. The large practical experience of the author enables him to treat most of the subjects from a personal point of view. The volume is handsomely illustrated with 233 cuts, and represents a work well fitted for teaching and learning.

A TEXT-BOOK OF DISEASES OF WOMEN. By BARTON COOKE HIRST, M. D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic and the Philadelphia Hospitals. Handsome octavo volume of 675 pages, sumptuously illustrated with some 650 mostly original illustrations, many in colors. Philadelphia, New York, London: W. B. Saunders & Co. 1903. Cloth, \$5.00 net; sheep or half morocco, \$6.00 net.

In marked contrast to the practice of almost all European medical schools a tendency may be observed in this country to separate the teaching of obstetrics from that of gynecology. There is no sharp line of division between these two branches of medicine, and we notice with satisfaction that the European mode of having one teacher for both specialties is gradually gaining ground in our medical colleges. As far as our information goes, this is the second instance in the history of American medical literature where one man wrote both a text-book on obstetrics and one on gynecology.

Hirst's work on obstetrics is certainly one of the most favored text-books and we venture to say that his new text-book of gynecology will enjoy the same popularity. Here is the proof positive that a man can be expert in obstetrical and gynecological work, and teach both in the same excellent manner. We extend our congratulation to Dr. Hirst, to the profession and the publishers upon the production of this creditable work.

FUNCTIONAL DIAGNOSIS OF KIDNEY DISEASE WITH ESPECIAL REFERENCE TO RENAL SURGERY. Clinical Experimental Investigations. By DR. LEOPOLD CASPER and DR. PAUL FRIEDRICH RICHTER. Translated by Dr. Robert C. Bryan and Dr. Henry L. Sanford. 12mo, pp. viii - 233. P. Blakiston's Son & Co., Philadelphia. 1903.

The volume is a translation of Casper and Richter's famous work and will doubtless prove of value to those surgeons who, though interested in advanced methods of diagnosis, are unable to read German. After a review of the subject historically and some account of the ordinary methods of diagnosis in renal diseases, the writers report a long series of observations. These concern chiefly the value for diagnosis of the determination of the freezing point of the blood serum and of the urine of the two kidneys collected separately and the phloridgin test in which the amount of sugar secreted by each kidney after the injection of phloridgin is taken as an indicator of renal sufficiency. Their conclusion is that by these methods alone can we arrive at a true notion of the ability of each kidney properly to perform its function. As most of those surgeons who cannot read German are apt also to be unfamiliar with the technique of freezing point determinations and the like, some more detailed information on this point than is contained in the original would have added greatly to the value of the translation. The translators have not failed to fall into the trap laid for the feet of all who do such work: the English of the volume is of a distinctly German cast.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Vol. IX. Physiology, Pathology, Bacteriology, Anatomy, Dictionary. Edited by W. A. EVANS, ADOLPH GEHRMANN, WILLIAM HEALY. August, 1903. Chicago: Year Book Publishers.

The volume of about 230 pages contains a very well-selected review of the literature covering the subjects mentioned in the title which has appeared during a period of about six months. Although, of course, the selection had to be limited to a small range, it appears that nothing of great importance was

neglected, and especially Gehrman's report of the work done in the line inaugurated by Ehrlich is very comprehensive. The arrangement of the different subjects is very clever and exceeds by far the methods used in the usual year-books and reviews. A very welcome addition to the book is the dictionary of new medical words that was compiled by W. Healy and adapted to the 1901 edition of Borland's Dictionary.

THE MEDICAL EPITOME SERIES. Series edited by V. C. PEDERSEN. *Physico and Inorganic Chemistry*, ALEXIUS MCGLANNAN. *Microscopy and Bacteriology*, P. E. ARCHINARD. *Medical Jurisprudence*, EDWIN WELLES DWIGHT. Lea Brothers & Co., Publishers, Philadelphia. Each volume, cloth, \$1.00.

The individual volumes of this series, that "shall embrace the entire realm of medical science and shall give for a minimum price the maximum amount of information," contain each about 200 small pages. Sketches, tables, etc., are interspersed for illustration of the text. As to the latter, it must be admitted that as far as the necessary brevity allows, it is concise and clear, and represents the subject dealt with comparatively well. The drawback of all such booklets is that they do not lead to study, but to a superficial knowledge. For a student preparing for examination they may be a welcome gift, but we do not think that they will satisfy the desire of a practitioner who wants to familiarize himself with a certain branch of medical science.

THE WORK OF THE DIGESTIVE GLANDS. Lectures by J. P. PAWLOW, of St. Petersburg. Translated into English by W. H. THOMPSON. Illustrated. J. B. Lippincott Company, Philadelphia.

This series of lectures, delivered by the author before the Institute for Experimental Medicine in St. Petersburg, present in a condensed form the results of the combined efforts of himself and his laboratory workers during the past ten years. The value of the experimental work of Pawlow is too well known to require special comment here. Suffice it to say that the methods employed in his experiments, and the results obtained thereby, have received universal recognition. The methods employed in obtaining the digestive secretions are superior because of the many difficulties which he has been able to overcome—the secretions may be obtained at all times and in absolutely pure condition; the quantities may be accurately determined under perfectly normal conditions. His labors have not only added much to our knowledge of the physiology of the digestive glands, but has enabled us to draw important conclusions with reference to the treatment—especially the dietetic treatment—of various digestive disorders. To students of physiology and all desiring a comprehensive knowledge of gastro-intestinal functions, the information contained in this volume is indispensable.

A TEXT-BOOK OF OBSTETRICS. By BARTON COOKE HIRST, M. D., Professor of Obstetrics in the University of Pennsylvania. Fourth edition, enlarged and thoroughly revised. Handsome octavo, 900 pages, with 746 illustrations, 39 of them in colors. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Cloth, \$5.00 net; sheep or half morocco, \$6.00 net.

In revising his work for this edition, the author has spared no pains to make the book reflect the latest knowledge on the subject. Every page has been altered and bettered in some way. More attention has been given than in the previous editions to the diseases of the genital organs associated with or follow-

ing childbirth. Many of the old illustrations have been replaced by better ones, and there have been added besides a number entirely new.

Hirst's Obstetrics is too well known all over the country to need a more detailed review in these pages. It will suffice to announce to the many admirers of this work that a new edition has appeared.

GYNECOLOGY. A Text-book for Students and a Guide for Practitioners. By WILLIAM R. PRYOR, M. D., Professor of Gynecology in the New York Polyclinic Medical School, etc., etc. One hundred and sixty-three illustrations in the text. New York and London: D. Appleton & Co. 1903. \$3.50.

As the author states in the preface, this volume is chiefly notable for the absence of bacteriology and minute anatomy. In order to produce a concise text-book only strictly gynecological subjects have been dealt with. It is obvious that in this attempt the writer antagonizes the tendency of modern "specialists," who never tire of emphasizing that a specialist should never keep in touch with general medicine and closely allied specialties. In the reviewer's opinion the borderlands between two specialties offer a wide field for very interesting study. A text-book on internal medicine must devote some space to the discussion of surgical interference in internal diseases, and a text-book on gynecology is incomplete if it does not mention the close relation between diseases of the nervous system and the genitalia. How necessary it is for the gynecologist to possess some information on nervous diseases the author shows when he speaks (page 45) of "hysterical symptoms of peritonitis."

Experience has shown that it is impossible to instruct the student in the details of the histo-pathology of the various organs before he has acquired a certain amount of knowledge in the pathology of these organs. Again, it was found impossible to convey to the student a proper understanding of the pathology without reference to the histo-pathology of the diseased organ. The logical outcome of this experience is the practice of the modern teacher to include in his lectures the histo-pathology of the diseases of his specialty. If Pryor tries to break with this custom, such an attempt can hardly be qualified progressive. There are to be found, however, in this book, a few, apparently inevitable, references to histology and pathology, and among them we detect the following: "The endometrium not being a mucous membrane, but part of the great lymphoid system—" (page 23); Influence of gout upon the endometrium (page 23); In dysmenorrhea "the epithelium is literally forced off the surface of the endometrium" (page 75); A pessary should never be employed where "the displacement is due to endometritis" (page 84); Cystitis is caused in about 60 per cent. of the cases "by a bacillus of the colon group, *Bacillus pyogenes*, or *Bacillus coli communis*, or *Bacillus aerogenes*, as called by different authors" (page 122); Cysts of the Corpus Luteum. "Occasionally *corpus luteum* will not rupture" (page 146).

The author states in the preface that it seems useless to describe very rare diseases. We agree with him. In a text-book on gynecology, however, we should like to see allusion to the following conditions, none of which are even mentioned: Perimetritis, Parametritis, Shortening of the Parametrium due to inflammation or injury, Lateral Displacement of the Uterus, Abnormalities of the Sacro-uterine Ligaments, Parametritis Posterior, etc., etc.

There is some peculiarity in the arrangement of certain topics—thus, *e. g.*, vaginitis is dealt with in the chapter "Inflammations," senile vaginitis in "Diseases of Vagina," while vaginism finds its place under the head "Diseases of the Cervix."

One more quotation from the preface: "A text-book on diseases peculiar to women should describe those diseases and their treatment as fully as possi-

ble, and such a book I have tried to write." The author devotes, on page 181, six and one-half lines to the description of the treatment of cancer of the cervix, while on page 184 four and one-half lines suffice to outline the treatment of cancer of the body of the uterus.

Just one-half of the volume is devoted to a description of gynecological operations, and this half will, despite the shortcomings of the other half, guarantee for this book a conspicuous place among modern gynecological works. The writer is well known here and abroad as a gynecological surgeon, and several of the most useful of gynecological operations bear his name. In this country Pryor must be considered the most ardent advocate of the vaginal route in gynecological surgery, and, therefore, this new book offers interesting reading to the gynecological specialists. In order to become useful to the student or the general practitioner the first half of the volume will have to be thoroughly remodeled.

THE ROENTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS. By WILLIAM ALLEN PUSEY, A. M., M. D., and EUGENE WILSON CALDWELL, B. S. W. B. Saunders & Co. 1903.

Since the x-rays have procured for themselves such a place in medicine and surgery there has been a crying need for such a book as this one. Radiotherapy is now practiced by almost every physician and surgeon, who obtain their knowledge through journal articles or practical personal observation. Therefore such a work as the one before us should be warmly received by the profession, as it is written by men who have a thorough knowledge of the machine and its application.

The first part of the book is written by Caldwell, who has thoroughly and scientifically discussed the mechanical part of the subject, describing the different apparatuses which are used to produce the x-rays.

The second part is by Pusey, of Chicago, who is, no doubt, the pioneer in this country in the therapeutic application of the x-rays. It is to him that we are indebted for the first enthusiastic work in this country in the treatment of epithelioma, lupus, acne and other diseases of the skin by this method. Therefore anything emanating from him in this line is of the greatest value. It must be remarked and commended of the writings of Dr. Pusey, that all his reports have showed a spirit of conservatism which is remarkable when one remembers the brilliant results he has obtained. His present work breathes the same careful and painstaking observations; not a word or sentence to lead the reader to a too great and rash enthusiasm. The mass of clinical data brought forward in the book should be convincing to the most skeptical. The illustrations are excellent, and as the camera speaks louder than words, the photographs are of great value in the report of these therapeutic results.

The book is most interesting and charmingly written. It seems to the reviewer that this is a most excellent presentation of the present status of the x-ray topic and should be a classic to all those who use the rays.

DAS SEXUELLE LEBEN DER NATURVOELKER. Verfasst von DR. JOSEF MUELLER. Leipzig: Th. Grieben's Verlag. (L. Fernau.) 1902.

Here for the first time an attempt has been made to write an exhaustive history of the sexual ideas and sexual life of humanity. The first part of the book deals with marriage. Discussing in detail the various theories on promiscuity, polyandry and polygamy, the author demonstrates the gradual development of these forms of married life into monogamy. The second part of the volume is devoted to a consideration of the various forms of sexual restrictions

as exerted before and after marriage. Modesty in the child, marital asceticism and celibacy are discussed.

The writer's conclusions are clear and convincing. They are based upon the critical study of an immense amount of references collected with admirable assiduity from the literature of the whole world.

NURSES' GUIDE TO SURGICAL BANDAGING AND DRESSINGS. By WM. JOHNSON SMITH, F. R. C. S., Greenwich. Philadelphia: J. B. Lippincott Company. 1903. Price 75 cents.

This little volume will be found a ready, concise and complete pocket reference book for the junior students and nurses in surgical wards. The instructions for bandaging are given in clear language and the explanations elucidated by a great number of schematic illustrations.

A COMPEND OF DISEASES OF THE SKIN. By JAY F. SCHAMBERG, A. B., M. D. P. Blakiston's Sons & Co., Philadelphia: 1903.

This is the third edition of this little book. It is revised and enlarged. There seems to be a demand for "Quiz-Compend," and we suppose they fill a space in the requisites of the students. This one of Dr. Schamberg is an excellent little work. It is carefully edited and brings forward the salient points in diseases of the skin.

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ORIGINAL ARTICLES.

LACUNAR TONSILITIS.

By JAMES MOREAU BROWN, M. D., of Chicago.

ASSISTANT PROFESSOR OF LARYNGOLOGY, CHICAGO POLYCLINIC, CHICAGO.

Lacunar tonsilitis is an acute inflammation of the lacunæ or crypts of the tonsils. It is a self-limited disease and characterized by a whitish-yellow exudate, sometimes forming a membrane of variable extent. The erroneous term "follicular," which is usually applied to this condition, has been to a great extent discarded. The point of difference is that the follicles of the tonsils are only affected secondarily; the tonsilar crypts or lacunæ being most generally affected, and the chief seats of the disease.

The use of the two terms has led to much confusion. That "follicular tonsilitis" may be "croupous" in the sense of there being fibrin in the exudation, hardly justifies that distinction as opposed to "diphtheritic," since the occurrence of fibrin is merely indicative of the extent of the injury. Neither is the occurrence of the membrane of diphtheria itself distinctive, since numerous caustics may produce a membrane identical to that seen in diphtheria. Kopolik (*New York Medical Journal*, 1894) has described several "lacunar tonsilitis diphtheria" cases. In eighteen out of thirty-nine only staphylococci and streptococci were found.

Follicular or acute cryptic tonsilitis, which is the most interesting form, is not follicular at all, but a simple or desquamative infection, due to streptococci, staphylococci or pneumococci, and is also probably contagious.

One hundred varieties of micro-organisms have been described by Miller as existing in the normal mouth, and an interesting question arises as to why these should suddenly and under unknown conditions produce pathological changes and invade the general system.

Lacunar tonsilitis occurs after operative interference in the nasal cavities, especially when the galvano-cautery is used. It also occurs when cutting instruments or caustic applications are employed. We cannot but suppose, therefore, that a causal connection exists between the intra-nasal interference and the tonsilitis, for the latter occurs in individuals who have never suffered from it previously. It has been known to occur in one and the same person each time the cautery has been used in the nose. It occurs frequently during the first days after the intra-nasal interference, and involves either the palatine or pharyngeal tonsils, or both of them, at once. The explanation that has been offered is that something is carried by the lymph or blood circulation from the nose to the tonsils which sets up the inflammation in the latter. By this we are led to believe that the injury which damages the protective epithelial lining of the nasal cavities

throws open the doors to the exciters of inflammation and that through this door they obtain access to the tonsils from within by way of the lymphatics.

Tonsils are prominent portals of entrance for various micro-organisms. This is due to the physiological gaps of the covering epithelium, which are large enough to give easy passage to emigrating leucocytes and emigrating microbes.

Both tonsils are usually affected and the condition may extend to the faucial pillars, palate and pharynx. Fraenkel reports a case of its occurrence upon the lingual tonsil. Involvement of the cervical glands is not an uncommon accompanying symptom. The onset is characterized by the rapid rise of temperature, sense of uneasiness in the throat and difficulty in swallowing. Upon examination the tonsils appear red and swollen, with whitish elevated spots, which, upon closer inspection, are seen to be the secretion issuing from the orifices of the lacunæ. These may be seized and pulled away and usually appear in the form of threads, which retain an attachment in the lacunæ. The infection from one lacuna to the other may explain the appearance of a membranous formation over the tonsil. The secretion consists mainly of a large number of cells (chiefly leucocytes and epithelial cells); also, of micro-organisms, chiefly cocci, but no fibrin.

With the further progress of the disease the redness and swelling of the tonsils increase, but these phenomena, as well as the pain in the throat, usually keep within moderate bounds; while, on the other hand, the fever advances with rapidity, a temperature of 40 degrees C. or more being reached during the first evening of the illness. Next morning the fever remits but again rises in the evening, until during the night the crisis of the temperature declines to normal, with the occurrence of perspiration and urinary sediment. In some cases the fever may cease within twenty-four hours; in others it may continue for three or four days. In all cases, however, it gives the impression by the suddenness of its onset and by its termination in crisis of an effective fever, which is strengthened by the disproportion which exists between the local phenomena and the height of the fever, while it is further supported by the fact that in a fraction of all cases a swelling of the spleen is to be detected. When the infection occurs in individuals who suffer from hyperplasia of the tonsils, and they are frequently attacked by it, the performance of the necessary tonsilotomy during the acute stage of the disease is sometimes indicated on external grounds. Experience in such cases proves that tonsilotomies performed during angina leucanaris do not differ in their course from the usual operation.

In considering the etiology we limit ourselves only to those cases which are unquestionably instances of lacunar tonsillitis. We exclude, therefore, from our etiological investigation all those cases in which pseudo membrane occurs, or in which the Loeffler bacillus is found. It is not desired to convey the impression that in simple lacunar tonsillitis the inflammation may become intense, that fibrin is secreted and that false membrane is formed. To make a clear distinction between lacunar tonsillitis and diphtheria, it is best in the etiological investigation to leave these forms out of consideration and confine ourselves to typical and perfectly pure cases. For the same reason we must exclude all cases in the secretion of which the Loeffler bacillus occurs.

The fact that it goes from the nose to the tonsils is a point of importance. The question arises as to whether the micro-organisms which cause lacunar tonsillitis are necessarily introduced into the body from without or whether they are

already in the tonsils, but must await an injury to the mucous membrane before they become pathogenic, a condition which is not only auto-infectious but capable of being transmitted from one subject to the other. An illustration of this is a case reported wherein a musician had acquired tonsilitis. At first there was no elevation of temperature, pulse small, rapid, and general condition bad. Second day, temperature 39 degrees C.; pulse, 108; meteorism and abdominal pains; enlargement of the spleen. Third day, it was apparent that the patient suffered from peritonitis. Fourth day, death occurred in spite of all remedies.

Post-mortem showed simple peritonitis without perforation; pulmonary edema and hypertrophy of the tonsils without membrane.

During the afternoon the physician cut himself and in spite of energetic disinfection was attacked the following day with lymphangitis, lymphadenitis and high fever. Having pain in the pharynx, an examination was made which disclosed lacunar tonsilitis. The wife and assistant also suffered from the same condition but finally recovered.

It is important to notice that many patients appear to be more emaciated and weaker after their recovery than the slight character of the local affection and the short duration of the fever would lead one to suspect.

34 Washington street.

A CASE OF TRAUMATIC INJURY TO THE BRAIN INVOLVING THE TONGUE CENTER—OPERATION.

BY WILLARD BARTLETT, M. D., and SIDNEY I. SCHWAB, M. D.,
of St. Louis.

George G., a colored laborer of thirty-five, was brought to the Provident Hospital, July 13, 1903, in a semi-unconscious condition. He had been working, with a number of other men, on a railway trestle, when the structure collapsed and all were precipitated a distance of about fifteen feet to the ground. The patient, a massively built young fellow, had evidently fallen upon his head, to judge from the nature of his injuries, though we could get no trustworthy information upon the subject.

He remained partially unconscious and extremely restless for twenty-four hours, or until the afternoon of July 14th, when he was seen for the first time. It was then impossible to fully arouse him, though he did attempt incoherent replies to a few loud questions. There was no evidence of paralysis of bladder, rectum or extremities at this time or later. The right parietal region was the seat of two short, clean, linear scalp wounds, while this entire half of the head was so edematous that no reasonable conclusion could be drawn regarding the character of the bony vault, although the head had been shaven. The entire upper portion of the face was also so edematous that the eyes were completely closed, and to complete the abject picture, the saliva drooled continually from the angles of the mouth. At this time the respiration was labored and 22 to the minute, while the temperature was 99.4° in the axilla. But most interesting of all, the pulse, which Dr. Davis assured us had been 72 one day earlier, was now 60.

During the night the patient continued very restless, muttering, and tossing his arms above his head, while the right side of the face twitched constantly. By the time we saw him, at ten o'clock next morning, it was almost impossible to arouse him at all from his unconscious state, and his pulse, which had decreased to 56 earlier in the day, was now only 42.

This case presented from the point of view of diagnosis and localization some very interesting problems. Their solution depended upon the utilization of data derived from a careful physical examination. The nature of the process and the exact part of the brain where this process was acting had to be determined before the question of surgical interference could be considered. The latter of the two questions is by far the more important to be answered. It is vastly more essential in traumatic brain cases to determine where the process is than what it is. That we had to deal with some lesion in the brain which produced a slowly developing increase in intracranial pressure was immediately apparent when the results of the two examinations made twenty-four hours apart were known. The increasing stupor and the decline in pulse-rate seemed to substantiate this fact with great precision. A fall of the pulse-rate from 64 to 42 in twenty-four hours, with no other apparent cause, left nothing else to be considered.

These facts then were sufficient to determine that not only had we to deal with a process causing an increase in intracerebral pressure, but, in addition, with some process which was causing a constantly increasing pressure. In other words, there was an increase in volume of the determining cause of the pressure symptoms.

A slowly organizing hemorrhage is the most common cause for this condition. So with considerable certainty it was thought that we had to do with an escape of blood organizing into a clot which was slowly increasing in volume by the addition of freshly formed coagula. The next point to decide upon was the localization of this clot. The possibility or the advisability of an operation would depend upon this to a great measure. At the first examination there was absolutely no localizing sign at all; and although an operation seemed advisable, it was determined to wait twenty-four hours in the hope that the general pressure symptoms would be augmented by some definite localizing sign that would indicate where the process was.

At that time it was agreed that in the absence of any such symptom the skull would be opened in such a way that the two linear scalp wounds referred to above would be included in the area of operation. The uncertainty of such a procedure was fully considered, and the fact that damage to a brain may bear little or no relation to the seat of the scalp wound was well known to us. At the next examination, however, the first evidence of a localizing sign was apparent. The tongue on protrusion deviated markedly to the left, showing that the left side of the tongue was paralyzed. It was only with the greatest difficulty that the examination could be carried out, on account of the stupor. When the mouth was opened, the tongue could be seen lying turned to the left side. It is to be noted that the tongue was frequently thrust out mechanically, as though there was some form of irritation at the seat of the cortical center involved. The tongue center lies in the lower third of the motor area, a little anterior to the anterior central convolution and above the sylvian fissure. It is in close proximity to the island of Reiland, is connected with the lower face muscles and the

motor speech fibers. Immediate operation was now decided upon, it being the intention to cut down upon the center involved, remove the clot and stop the bleeding. This was carried out one hour later, after the region of the tongue center of the injured side had been indicated upon the scalp.

Operation.—A sharp-pointed knife was thrust through the scalp at the point just mentioned, and the skull scratched as deeply as possible, then a large horse-shoe-shaped flap of scalp was removed, as soon as it was determined through the primary incision that the skull was the seat of a comminuted fracture, and that an osteoplastic flap could not be made. The scratch on the skull, above alluded to, was now plainly seen, and around it as a center the De Vilbis rongeur quickly bit out an area some two inches in diameter. Exactly beneath this opening there lay a disk-shaped clot almost as large as a man's palm and some half an inch in thickness. With the removal of this mass we were gratified to observe the pulse go up immediately to 85. The cavity was loosely stuffed out with iodoform gauze, to stop a moderate oozing that persisted, the wound sutured, except at the point of exit for the gauze, and the patient put to bed in fair shape.

It must be distinctly understood, in passing, that the area of bone splintering was beneath the scalp wounds, and well behind the area originally determined for the tongue center; so it can be readily seen that we might have removed the bone fragments and overlooked the cause of all the trouble, had we simply followed external indications, instead of allowing ourselves to be guided by the one focal symptom in the case and cutting down upon a predetermined center.

The further progress of the case is extremely simple: on the fourth day the gauze was withdrawn and the remainder of the wound sutured, first intention being obtained throughout.

The patient was no longer restless, while he regained consciousness in a few days, though the ability to articulate distinctly was slow in returning. The tongue was completely paralyzed for about one week, and there was also following the operation a paresis of the right arm.

On August 6, 1903, twenty-two days after the operation, the man was discharged from the hospital entirely well and with a pulse of 70.

A study of this case in its various phases points in no uncertain way to the value of three considerations, viz.:

1. That the entire scalp must be shaven before an examination of it can be considered complete.
2. That no absolutely reliable examination of the skull is possible until the scalp has been removed.
3. That a localizing symptom is of far greater value than any external evidence of injury, as an indication of the proper point for operative attack.

THE RELATIONSHIP BETWEEN CERTAIN CATARRHS OF THE SKIN
AND CERTAIN CATARRHS OF THE MUCOUS MEMBRANE
OF THE EYE, EAR, NOSE AND THROAT.

BY MARTIN F. ENGMAN, M. D., of St. Louis, Missouri.

The principal point to which I wish to refer is the auto-infectious nature of certain diseases of the mucous membranes and the skin; affections which when co-existent seem to be by this means in direct relationship to each other, although in each location a distinct and separate term is given to them. The first in importance and the most prevalent are the various catarrhal affections of these tissues, which may, by the difference in the virulence of the process, be seen as various clinical types of disease; of a purulent, sero-purulent or dry catarrhal nature. Thus in both the mucous membranes and the skin we may have, co-existent, inflammatory processes varying in their clinical symptoms according to the local reaction of the tissue involved. Upon the skin auto-infection of these catarrhs is a usual occurrence, especially in children.

The careful observation of these various co-existent conditions unites so intimately, by a chain of clinical facts, the catarrhs of the mucous membranes of the eye, nose, throat, ear and the skin, that their discussion may, for the sake of brevity in this sense, be of a general and inclusive character.

To illustrate what is meant by the above remarks we will cite a typical case. Usually a child or young adult appears for advice, presenting the following symptoms: Upon the skin of the face, and sometimes upon the arms, neck and scalp, are crusted, weeping areas of inflamed skin, ranging in size from a patch as large as a silver dime to that of the palm of the hand, with here and there over the rest of the face small crusted points, which are the initial lesions from which the larger patches form. The eyes are secreting a purulent or sero-purulent discharge, while the lids are swollen and the lashes are clumped by crusts of dried exudate. The upper lip is edematous and covered by a dermatitis of a similar nature to that above mentioned, caused by a sero-purulent discharge which flows over it from the nostrils; or, the latter may be almost closed by yellow or greenish crusts, the dried discharge. To complete the picture, one or both ears in many cases are also discharging with a dermatitis about the external canal or the concha. By close questioning of this patient or its relative it will often be found that the various catarrhal conditions had extended successively from one locality or region to another, either beginning upon the skin from, possibly, an accidental abrasion or trauma of some character; or by an infectious discharge from the nose after a "cold;" or from the eye after a conjunctivitis; or after a "sore throat," idiopathic or symptomatic, the chin, lower lip or some region about the mouth, being the initial infection incited by the infectious saliva.

The case we have cited is, of course, a severe one, but not an infrequent picture in our experience.

We know how frequent it is to find a so-called eczema about a discharging ear. Also about the lids after a conjunctivitis. Many of these cases have I seen in the Polyclinic in conjunction with the gentlemen in the various departments.

In my private practice and in Dr. Hardaway's clinic at the Polyclinic, I have seen many cases where close questioning elicited the fact that the rhinitis or conjunctivitis had appeared *after* the skin infection, having, no doubt, been conveyed to the mucosa of the nose by contaminated fingers, especially in children who delight in picking the nose; or to the conjunctiva by rubbing with the fingers or infected cloths.

By the older writers cases of the character cited are termed *scrofulous*; probably because there often ensues enlargement of the adjacent lymphatic glands from absorption of the local intoxication or infection. But why *scrofulous*?

Of course, it is probably necessary for the proper infection of these various localities to have a certain degree of lowered resistance, but when we see phenomena which are plainly of an auto-infectious nature, why go further for an explanation and grope about in the ancestral history of the patient for a cause?

Unna calls a certain type of this catarrh, "*tuberculous eczema*," for the same indefinite reason as the English and French *scrofula*, he having no evidence on which to found this name.

Last September I discussed a subject which included the group of infections to which we have referred, under the title of "*An Infectious Form of an Eczematoid Dermatitis*." In that discussion it was affirmed that there was an infectious dermatitis caused by a variety of *staphylococcus*, which might gain access to the skin by an abrasion or from auto-infection from a catarrhal mucous membrane. A year has passed and during this interval I have pursued my study of this subject with the result that I am now even more thoroughly convinced of the truth of that statement.

It is impossible to go into the details in this short paper as the subject is a very broad and vast one, striking at the vital "*eczema question*," over which there has been so much contention in the last few years.

The clinical fact that these catarrhs of the various regions are infectious, is the principal point of my discussion. Dr. Hardaway and Dr. Wolfner some years ago carried on, jointly, a series of clinical observations to determine the relationship of *seborrheic eczema* of the scalp and certain granular and catarrhal conditions of the eyelids. From personal conversations with these gentlemen upon their studies, I learned that they both consider that there is probably an infectious relationship between the two localities in these conditions. Dr. Hardaway speaks of this in his text-book on diseases of the skin; but, strange to say, after a very thorough search of the literature, I have found no other author who speaks of the apparent infectious relationship between catarrhal processes of the skin and mucous membranes. All of them attribute these catarrhs, when co-existent, to unknown constitutional causes.

Of course, we must admit a proper soil, in the present state of knowledge upon infections, but, to me, the prime factor in the production of all the symptoms is a specific micro-organism. The day of saddling so many diseases of the skin of unknown origin upon *scrofula*, rheumatism, gout, climate, diet, etc., is fast waning. We are striving for a more exact pathology. On account of the rich flora of the skin it is a giant task to study any disease of the skin bacteriologically; but when we find an organism in pure culture as a constant associate in a certain disease, one is prone to study its significance, especially so if we produce by its artificial inoculation lesions similar to those from which it was obtained. The last few years I have been studying a variety of *staphylococcus*

found in these catarrhs. I find this coccus so constantly and have had so many confirmatory experiments with it, that I am led to believe it to be an etiological factor in these afflictions, very probably the cause under certain conditions.

To those interested in the various clinical types I have mentioned, it seems to me this subject is of great importance, and certainly worthy of painstaking clinical study, for it is of great practical as well as scientific value to determine the exact relationship between these frequently co-existent catarrhs.

It is very probable the fundamental principle of all catarrhs is the same whether it be upon a mucous membrane or the skin. The slight histologic difference can be explained by the special physiologic and anatomic nature of the tissues.

Besides the catarrhs there are several other diseases of the skin which bear a close relationship with diseases of the nose, and are of special interest.

Stricker (*Dermatologischer Centralbl.*, December, 1898) states that erysipelas may serve as a type of a class of affections which actually originate in the nose and thence are distributed by lymph-paths to the face, the primary lesion being intranasal. This, he says, is true of glanders; for wherever the organism is introduced into the system, the nose is invariably the first organ to be affected.

In a great many cases of leprosy there is an ulcerous destruction of the mucous membrane over the septum, and as this lesion is the only approach to a constant phenomenon of leprosy, Stricker goes so far as to regard it analogous to the syphilitic primary lesion. This leprosy lesion in the nose always contains the lepra bacilli in great numbers and forms a focus for secondary infections upon the face through the lymph channels. Stricker traced the lymphatics from the nasal septum over the face by means of injected specimens and finds that the distribution harmonizes with the peculiar localization of certain facial eruptions, such as acne rosacea, lupus erythematosus, leprosy; all of which are often seen grouped as follows: forehead, nose, chin, ears. Deposits of disease in these sections Stricker claims are favored by the tendency to arterial fluxion and venous stasis in the same localities.

G. D. Murray (*Med. Rec.*, 1899) makes a plea for the careful search for some irritation in the nose in the treatment of all skin lesions of the face, where the origin is uncertain. He founded his plea upon eleven cases of eruptions on the face of an erythematous and acne-like character relieved by the correction of nasal stenosis.

The observations of these writers is interesting and no doubt of great value. In leprosy, erysipelas, syphilis and lupus erythematosus I can confirm their opinions, but if they mean by acne, acne vulgaris or comedo-acne, I cannot agree with them. Acne vulgaris is, probably, a local bacillary infection of the follicles and glands. However, there is a disease characterized by a small, superficial pustule upon the front of the face, especially about the cheeks and nose, which I have frequently seen in those with some affection of the nasal mucosa, and have believed there was some direct relationship between the two conditions.

We undoubtedly have in connection with the nasal mucosa and skin two methods or avenues of auto-infection: (1) by means of the lymphatic channels; (2) by the direct inoculation of the infectious secretions.

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EDITORIAL COMMENT.

THE VALUE OF THE OMENTUM IN LAPAROTOMY.

How often we have occasion to remark that it is only by the grace of nature's extreme friendship for the surgeon that he is enabled to accomplish any results at all. This is surely true as regards the matter of infection; for example, what surgeon supposes for an instant that he really can create a wound and prevent one single germ from entering the same until it has been closed again? If the matter of aseptic wound healing were not aided by the resistive powers of the human organism as opposed to the virility of the bacterial organism, then there would be no such thing as the "first intention" on which we pride ourselves, often without giving due credit to our partner in the affair—indulgent mother nature.

In a recent article entitled "The Omentum as a Protecting Organism," Renzi and Boeri (*Berliner Klinische Wochenschrift*, No. 34, 1903) have very completely brought out several of the advantages which we derive in the course of a laparotomy from the nearby presence of this potent helper. Its ability to form adhesions and through the new vessels thus furnished to supply the spleen with sufficient blood, is noted after ligation of either the main artery or vein entering the hylus of that organ. Suppose that all the vessels entering the hylus of the spleen be ligated, then the organ becomes necrotic in a short time as a matter of course; but the value of the omentum in this connection becomes apparent when in a few days it is seen that the dying organ has been completely surrounded, or, as it were, encapsulated by this apron with all its vessels greatly distended. Then if the observation be carried on for a sufficiently long period

it will be seen that the remains of the spleen have been completely absorbed. But suppose the vessels at the hylus to be ligated and the omentum to be removed at the same time, then there is no resorption and the animals die in a few days, though the time of death can be postponed if the one or the other operation be delayed for a certain length of time.

The same thing may be said of the relation of the omentum and the kidney, in spite of the fact that the latter organ does not lie wholly within the peritoneal sack, in the ordinary acceptance of the term (knowing that from the strict anatomical reality) that both lie wholly outside this membranous covering.

It is further worthy of remark in this connection that foreign bodies which find their way into the abdomen are often completely wrapped around by the omentum and remain for months or years undisturbed in the new surroundings.

We all know that the omentum is usually treated as a foreign body or, indeed, as an enemy to the patient and ruthlessly ligated and large portions removed, with regard for the fact that no other organ (if it can be so designated) is known to have such protecting qualities; this, too, where there can be shown to exist no good and sufficient reason for taking it away. Then, too, adhesions to its extremity must form wherever it be divided, and this is in itself often a matter of consequence.

We are only too well aware of the way in which this apron includes such threatening enemies as the inflamed appendix and thus holds peritoneal infection in check until resolution be accomplished or until an operation be performed. But most interesting of all is the knowledge that a large defect in the wall of a hollow viscus can be closed with a patch of omentum, and that the columnal epithelium will grow by continuity from adjacent mucous surfaces until the inner aspect of the new patch is covered.

A BEVERAGE OF VIRTUE.

If the writer in a recent number of the *Journal of Tropical Medicine* is to be credited, an infusion from the dried leaves of *plex paraguarensis* is what the world long has sought—a perfect and harmless stimulant. Paraguay tea, unlike all stimulants, unlocketh no secrets, bids hope to come and be realized, makes the coward a hero and teaches accomplishment. This unnamed correspondent of the *Journal of Tropical Medicine* claims that the sustaining and stimulating effects of an infusion of *plex paraguarensis* is very remarkable; that the lazy and indifferent South American, under its influence, becomes an unflagging, industrious Yankee of endurance. Woodcutters commence their labors at day-break and work with increasing and unwearied energy for six or seven hours, and so long as they get their “mate,” vigor and accomplishment assume continuous sway. The writer, after an extended experience, avers that it is invigorating and sustaining, with different powers from those of tea or coffee or cocoa. When taken as a stimulant for night work, study, late watching or nursing, it conveys an energy and vim which make work and duty a glowing and real pleasure.

Unlike wine, it does not heighten love into indifference, but into duty; nor does it cause love to grow into jealousy and jealousy into madness. Instead of converting the good-natured man into an idiot and the choleric into an assassin, it makes him a dutiful, working divinity. It robs bitterness of resentment, saps insupportable vanity and never displays the soul's deformity. No devil bides in this beverage. It is a decoction made up of virtue, duty and morality.

It is best taken as a very hot infusion through a metal tube, but it can also be taken in the same manner as tea and coffee, with milk and sugar. After a short experience most people prefer to drink it native without any admixture. While it is very bitter, like all bitter things, experience soon makes it an agreeable and even palatable drink. Upon analysis there seems to be nothing in the drug which explains its virtues. The percentage of caffeine and the amount of volatile oil is very much less than that contained in tea or coffee.

After three years' experience this correspondent has been unable to discover any evil effects from the use of this admirable stimulant, it being averred that even when the consumption of the decoction becomes an actual mania, no special evil results.

NERVOUS "PROSPERITY."

When some sprightly writer among the laity delves in nosological lore, the results are very apt to be unique and scintillant.

Thus a writer in a recent issue of a lay journal informs us that "nervous prosperity" is a disease. He did not state whether lustihooded poverty can be classified in the same manner. Continuing, he very knowingly says: "Women, having duties which, if not fewer, are less compulsory than those of men, are peculiarly subject to this complaint. Their physical strength is less, their nervous system more complicated. The American climate in the northern states is enticing. A person can drink more coffee or alcohol without feeling stimulated in London and most foreign capitals than he can in New York or Chicago. Many who cannot sleep in the United States are less troubled with insomnia abroad."

It is plain that the writer, having thus successfully started in defining nervous prosperity, has no timidity in airing his views. While he leaves us in doubt as to whether nervous prosperity has an hysterical or a neurasthenic element, he yet remains firm in his conviction as to the force of modern surroundings.

In these days of strenuousness all things have become strenuous. Prosperity in the last few years has become more hugely prosperous than it has in all past æons of time. Prosperity when reckoned in millions becomes intensely self-appealing and productive of self-introspection, and too much self-introspection is a throttler of weak minds and a strenuous pathologizer. In fact, too much prosperity is much more pathologizing, all things considered, than ordinary poverty. Our writer views the modern tendency of haste as disease-producing, because it begets both bodily and mental tension. Cable cars with gongs and crowds, railways overhead, underground and otherwise, packed streets, automobiles, telephones, telegrams, messenger boys, all beget tension. Accomplishment being almost incredibly broadened, many persons acquire a passion for late hours and create that new anomaly, the somnophobiæ, the person afraid of sleep.

The somnophobiæ of old is the lunatic, but the word sleep has lost its soothing melliflence. No thought comes to him of delicious, peaceful oblivion. Unlike normal man he will not willingly and delightfully shut up his senses nor will he hoodwink his soul or shut the trap-door of his brain to the outer noisy world. To be neither dead nor alive, yet both and neither, his soul is not on earth, mayhaps, still less in heaven.

We may doubt the propriety of laymen becoming medical authorities without cause or foundation, yet such thoughts as these have much in them and suggest ideas of more than picturesque wording.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

The Dwarf Tapeworm (*Hymenolepis Nana*), a Newly Recognized and Probably Rather Common American Parasite.—STILES (*New York Medical Journal*, November 7, 1903), in his examinations of 3,500 patients, found the dwarf tapeworm sixteen times, the *tania saginata* twice, and not a single case of *tania soleum*. The writer is of the impression that this parasite is rather prevalent, but has been overlooked because of its small dimensions. It is slightly less than two inches in length. It has four suckers and a crown of hooks.

About one hundred cases have been recorded in man, the first case in this country being reported by Spooner in 1873.

The regular channels through which man becomes infected have not been established. It seems probable that rodents, especially rats and mice, are the regular hosts for this worm. The eggs of the parasite may be spread to the food through the droppings of these rodents. The worm inhabits the ileum of man, and may be found in varying numbers.

The writer reviews in detail the history of this parasite, the symptoms produced by their presence, diagnosis, treatment, etc.

The Agglutinating Qualities of the Bile and the Serum from Cases of Icterus.—KONIGSTEIN (*Wiener Klinische Wochenschrift*, No. 35, 1903) carried on experiments with reference to bile in agglutination tests. In twenty-one cases in which human bile was used he did not meet with a single positive reaction. The same results were met with when the bile from rabbits, cows, etc., was used. He concludes, from his observations and experiments, that the serum of icteric cases acts just as that of a healthy individual does when applied to typhoid cultures.

The Gruber-Widal Reaction in Icterus.—JOACHIN (*Wiener Klinische Wochenschrift*, No. 35, 1903) found in the observation of icteric cases that the agglutination test was negative to the bacterium coli and the bacillus dysenteriae; that the test was positive in its application to vibrio cholera and the bacillus pyocyaneus, even in high dilutions.

In the case of the typhoid bacillus the reactions were somewhat different.

The serum from cases of cholangitis produced agglutination promptly, even in high dilutions, while the serum from cases due to carcinoma gave tardy reactions only in low dilutions.

A Review of Some Recent Investigations Relating to the Pancreas.—HART (*Medical News*, No. 14, Vol. 83) reviews in detail the recent literature relating to the physiology and diseases of the pancreas. To Pawlow is due the credit for the impetus recently given to research along these lines. Opie and Bayliss and Starling are prominently mentioned. The conclusions of the latter are especially interesting.

The secretion of the pancreatic juice is normally evoked by the entrance of acid chyme into the duodenum, and it is proportional to the amount of acid en-

tering (Pawlow). This secretion does not depend on a nervous reflex, and occurs when all nervous connections of the intestine are destroyed.

Contact of the acid with the epithelial cells of the duodenum causes in them the production of a body (secretin) which is absorbed from the cells by the blood current, and is carried to the pancreas, where it acts as a specific stimulus to the pancreatic cells, exciting a secretion of pancreatic juice proportional to the amount of secretin present. This substance, secretin, is produced probably by a process of hydrolysis from a precursor present in the cells which is insoluble in water and alkalis, and is not destroyed by boiling alcohol. Secretin is not a ferment.

The pancreatic juice obtained by secretin injection has no action on proteids until "enterokinase" is added; the action on fats is increased by the addition of succus entericus. It is, in fact normal pancreatic juice.

Secretin rapidly disappears from the tissues, but cannot be detected in any of the secretions. It is not possible to obtain a body resembling secretin from any tissues of the body other than the mucous membrane of the duodenum and jejunum.

Secretin solutions, free from bile salts, cause some increase in the secretion of bile. They have no action on other glands. Acid extracts of the mucous membrane normally contain a body which causes a fall of blood pressure. This body is not secretin, and the latter may be prepared free from the depressor substance by acting on desquamated epithelial cells with acid. There is some evidence of a specific localized action of the vasodilator substances, which may be extracted from various tissues.

Carcinoma of the Pancreas and Its Diagnosis.—BURT (*Postgraduate*, October 3, 1903).—Primary malignant disease of the pancreas is not often encountered. There were but twenty cases of this nature among six thousand autopsies at Guy's Hospital, and twenty-two in something over eighteen thousand at the Vienna General Hospital. The author reports such a case, in which the diagnosis was based upon a tumor in the epigastric dilatation of the gall bladder, due to pressure on the common duct, deep jaundice, peculiar greasiness of the skin and dejecta and the subjective symptoms.

Cholecyst-duodenostomy was performed. A tumor about the size of a hen's egg was found in the head of the pancreas.

A Case of Combined Pyloric Cancer and Phlegmonous Gastritis.—McCASKEY (*Medical Record*, No. 15, Vol. 64).—Suppuration as a surface process in gastric cancer is probably not very rare, but its occurrence with the formation of a distinct and well-defined abscess cavity in the stomach is of interest. The writer reports such a case, in which there was clinical evidence of cancer, the gastric contents containing no hydrochloric acid, considerable amounts of lactic acid and much pus.

The blood examination showed 24,000 leucocytes. The autopsy revealed cancer of the pylorus, in the body of which there was an abscess cavity an inch and a half in diameter.

Two New Methods of Determining the Digestive Activity of Gastric Juice.—BETTMAN and SCHROEDER (*Medical Record*, October 31, 1903) describe two new methods for determining the digestive activity of gastric juice, which they term (1) the method with albumen foam, and (2) the centrifugal method.

The first method is described as follows:

A small quantity of the gastric juice is diluted with three times its volume of a 0.2 per cent. solution of HCl; 1 c.c. of the diluted gastric juice is placed in a

homeopathic vial, and to it is added 2 c.c. of a 1 per cent. solution of egg albumen containing 0.2 per cent. free HCl. The vial is thoroughly agitated (fifty violent shakes usually suffice) until a column of foam about 2 c.m. high is formed. The vial is now placed in the incubator at 37° C.-40° C., or in water kept at that temperature, and the time required to clear the surface of foam is noted. In the one-fourth dilution of a normal case the foam will disappear in twenty minutes. If this time is divided by two it will represent the time required by the original undiluted gastric juice, and from this time the actual pepsin strength of the gastric juice can be calculated.

The second process is briefly described as follows: The gastric juice to be tested is diluted with three times its volume of a 0.2 per cent. solution of HCl. This diluted juice and the standard albumen solution are placed in the incubator about fifteen minutes in order to be warmed to the body temperature. In each of two test tubes are placed 10 c.c. of the standard acidified albumen solution. To one tube 5 c.c. of the diluted gastric juice is added; to the other (the control tube) 5 c.c. of a 0.2 per cent. solution of HCl. These tubes are then placed in the incubator at 37° to 40° C. for exactly seventy minutes. At the end of that time they are removed, and 10 c.c. are taken from each tube and placed in the centrifugal tubes graduated to .02 c.c. To each tube is added 5 c.c. of a 10 per cent. solution of trichloroacetic acid, and after inverting the tubes several times they are placed in a high-speed centrifugal machine and centrifugalized two hours. At the end of this time the tubes are removed and the volume of sediment measured. The sediment in the control tube will be an index of the original albumen strength of the standard solution. The sediment in the second tube will be less, if digestion has taken place, the difference representing the proportion of albumen which has been transformed into peptone.

Rheumatoid Arthritis.—BISHOP (*Journal of Advanced Therapeutics*, No. 9, Vol. XXI) considers rheumatoid arthritis a progressive disease of the nervous system, due to faulty metabolism, affecting primarily the centers and nerves that exert a trophic influence upon the tissues of the body, and is characterized in the early stages by a torpid condition of the entire muscular system, a general feeling of fatigue, with a sense of soreness, pain and stiffness of the extremities, especially of the fingers, wrist, knees and ankles. This is followed by febrile attacks, each leaving in its wake some deformity.

The writer points out the necessity of the earliest possible diagnosis, with a view to applying the proper treatment promptly. His treatment is based upon the belief that impaired nutrition is primarily the cause of trophic changes, first, in the nerve center; second, in the nerves, and, third, in the muscles and joints.

Cardiaptosis and its Relationship to Hepaptosis.—EINHORN (*Berliner Klinische Wochenschrift*, October 12, 1903) describes a series of fifteen cases of cardiaptosis, tabulating them with reference to the exact position of the heart, of the liver and the kidneys, and the chief symptoms.

Emaciation, enteroptosis and neurasthenia play an important role in the etiology. The displacement of the heart occurs much more frequently in men than in women, which is attributable to the mode of dress. Palpitation, dizziness and difficulty of lying on the left side are the chief subjective symptoms.

In more than one-half the cases of cardiaptosis there was also a general enteroptosis, and in all the cases a greater or less degree of hepaptosis. This is readily explained by the fact that a ptosis of the heart necessitates a lower position of the diaphragm. All cases of hepaptosis are not accompanied, however, by a cardiaptosis.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Experimental Study of the Question of the Elimination of Bacteria from the Body.—NOETZEL (*Wiener Klinische Wochenschrift*, No. 37, 1903).—The question which the author presents for solution is essentially this: Does the kidney excrete bacteria in a physiological manner, or is the presence of many organisms in the urine merely a sign of disease in that gland? The number of organisms which leave the body through other glands can be neglected for all practical purposes, so small is it. At the same time, if we wish to establish a physiological principle, it must be shown that the germs leave the body very soon after they have been introduced. To get at a solution of the matter, the author took guinea-pigs and introduced aspirating needles into the bladder of each, after which he made intravenous injections of pure cultures. It was impossible to attain positive results, although some of the experiments were continued as long as two hours, thus showing that the kidney does not normally act in the manner indicated. When the kidneys of these animals were examined bacteriologically after death, many colonies were found, thus showing that the organs were the seat of disease.

Splenectomy in Splenomegalia with Cirrhosis Hepatis (Clinical Type—Banti's Disease).—QUENU and DUVAL (*Revue de Chirurgie*, No. 10, 1903).—In 1899 the authors had done the operation for the symptom picture to which Banti called attention in 1894, but unknown up to that time. There exists a singular parallel relation between the spleen and liver in these cases, though no one can explain just what the relation is. Still it must be admitted that the removal of the one (spleen) causes a cessation of the process in the other. The general impression, a vague one at best, seems to be that the whole affair depends upon some sort of an auto-intoxication from the digestive tract.

Four years after the operation this first case referred to above is still in good condition, which says much for the method of treatment. Death is usually caused by the anemia or by intestinal hemorrhages, and there is on record no case of spontaneous recovery. Of the author's four cases three recovered while one died from a uterine sepsis shortly after. The good results were immediate in all cases after the operation.

Concerning Rhinophyma.—V. BRUNS (*Beiträge zur Klinische Chirurgie*, Band xxxix, Heft 1).—This rare but interesting condition, known variously as elephantiasis, hypertrophy, or acne rosacea of the nose, is not in reality confined to alcoholics, as was formerly supposed. The author has been called to operate eleven times for the condition though it is so rare, hence the present report is of peculiar worth. In but two of his cases was there any history of alcoholism. The photographs which accompany the article are certainly as perfectly illustrative of the fine points involved, as one could wish to see. The deformity consisted in some cases of lobes so overgrown that they hung down over the mouth as far as the chin. In one case the patient had to push one lobe out of the way in order to enable him to eat. The inner structure of these tumors was always that of an adeno-cysto-fibroma, showing nowhere any of the characteristics which might lead one to think of a clinical malignancy. The only treatment consists of excision; here the tendency to healing per prima is always all that could be desired. Most of the eleven cases referred to were dismissed within a week.

The Surgical Treatment of Traumatic Hemorrhage of the Spleen.—SENN (*Journal of the American Medical Association*, November 21, 1903).—Senn proposes a new method of combating this form of bleeding, based upon the reasoning that we see it coming more often from the parenchymatous veins rather than from a main vessel at the hilus; further, that there is no muscular tissue in the organ to aid us and usually no firm capsule to the organ. Tampon of the wound, or removal of the organ, have given the best results up to date, but even these can be improved upon by crushing the wound edges with a long forceps and then sewing the crushed edges together. A number of experiments along this line gave uniformly good results, as far as the easy and prompt stopping of hemorrhage was concerned. This procedure is therefore to be regarded as more conservative than splenectomy, and hence given the choice over the latter so long as the texture of the organ is not so changed by disease as to render this form of hemostasis impossible. The other methods in vogue at the present time are fully considered together with their indications.

Experiences in Operating for Incarcerated Hernias.—WEYPRECHT (*Archiv fuer Klinische Chirurgie*, Band lxxi, Heft 1).—This article represents ten years' work at Urban, where they had the astonishing number of four hundred and two of these cases. Of these, three hundred and twenty-seven were operated upon, and of the total number, 14.4 per cent. died. In small hernias which had been incarcerated forty-eight hours, especially if there was swelling of the tissues, no manual attempt at reposition was made before the operation. There were seventy-two gangrenous cases, and of these 46.6 per cent. came to a fatal issue. The serous contents of the sac were examined bacteriologically in many instances, but it cannot be shown that the mortality was any higher in the cases where germs were found than in the others. Interesting but excusable mistakes in diagnosis were made: for instance, an inflammatory process in an empty sac led to the diagnosis of incarceration and operation; while in another patient a large lipoma was mistaken for incarcerated omentum. In only one of this large series of cases was the colon the sole viscus in the sac. It is the custom at Urban to cut down upon the constriction rather than divide it from within outward; thus infection is prevented to some extent.

There is but one method of determining whether or not an incarcerated gut will live after liberation, and that is by seeing contractions of it. The application of drops of water of a temperature between forty-five and fifty degrees Celsius, is the safest method which the author has been able to arrive at, and will arouse peristalsis if it can be done in any way. An important point urged by the author is the application of a suture which will fold in the line of the constriction, if there be any reason to suspect the possibility of gangrene at this point. It is wrong to fix a loop of intestine which is suspicious outside the abdomen, since this is the best way to further prejudice its nutrition; if immediate resection of such a loop be not immediately done, it is far better to replace it in the abdomen and then pack down to it; this prevents a general peritonitis in any event and at the same time gives the gut its best chance to recover vitality. A radical operation is to be done in all cases where it is possible and thus for all time dispose of a case at one sitting.

The danger of such an operation must be regarded as slight so long as the gut is intact and there are no serious complications. The establishment of an artificial anus has given very bad results in all hands and is to be thought of in these cases only when no severer procedures can be contemplated on account of the patient's condition, or when a purulent peritonitis is present.

The Diagnosis of a Primary Gangrenous Appendicitis.—REYNIER (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 31).—A patient whose history the author relates in detail had a severe chill at the outset of his

attack, then high fever succeeded by a fall of temperature in what he calls the septic fashion. The curve is regarded by him as characteristic for this form of the disease, in which he writes of the local and general symptoms as being out of all proportion to each other. In the case mentioned the temperature went up the second afternoon, in spite of the regulation treatment, so the author operated and found a partially gangrenous organ as the cause of the trouble, the recovery being uninterrupted from this time.

To recapitulate, the author's diagnosis of gangrenous appendicitis is founded upon the great oscillations in the temperature curve, together with a disproportion between the local and general symptoms.

The Use of Rubber and Lisle Gloves at the Same Time.—GOEPEL (*Zentralblatt fuer Chirurgie*, No. 42, 1903).—The rubber gloves are easily torn and the lisle gloves allow the germs to pass through them; both of which disadvantages can be overcome by merely wearing a pair of the cloth gloves over the others. The various advantages to be derived from the combination are summed up as follows and tabulated by the author:

1. The operator is protected from infection.
2. The operator can use the hand with much greater freedom and not fear infecting the patient.
3. During an operation the gloves can be changed and soiled hands be rendered at once aseptic.
4. Gloves render it easier to tie knots tight because the thread does not cut in; further, the lisle glove allows one to grasp instruments particularly firm.
5. Where it is necessary to have great fineness of feel, the outer glove can be quickly removed.
6. Where several small operations have to be done much time is spared from washing the hands; this can be omitted altogether if the gloves are not to be torn, which is unlikely by this method.
7. Eczema, etc., do not trouble the surgeon who wears gloves, since he is spared much of the necessity of scrubbing which he would otherwise have to undergo.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

A Case of Splenomedullary Leukæmia Successfully Treated by the Use of the Roentgen Ray.—NICHOLAS SENN (*Medical Record*, August 22, 1903).—In the *New York Medical Journal* for April 25, 1903, Senn reported two cases of pseudo-leukæmia that recovered under the x-ray treatment, and have continued in excellent health since. Not long after this favorable result a typical case of splenomedullary leukæmia entered his surgical clinic with the object of having the enormously enlarged spleen removed.

The patient was a foreign-born Jewess, twenty-nine years of age. Both family history and previous history were without direct bearing on the case. A year ago she began to experience a sharp pain at varying intervals in the left hypochondrium, attended by a sense of weight and fullness in the same region. This was soon followed by a dull, aching pain in the lower end of the sternum and the epiphyseal extremities of the large, long bones and by nearly constant occipital headache. On examination a point of exquisite tenderness was found at the junction of the gladiolus and ensiform cartilage of the sternum. The abdomen was greatly enlarged, a huge spleen extending two inches to the right of

the navel and below nearly to the pubes being easily made out. The liver, too, was palpable below the costal margin. The temperature varied from normal in the morning to 100 in the evening. The blood examination showed erythrocytes, 3,500,000; leucocytes, 64,800; hæmoglobin, 56 per cent.; many eosinophiles, myelocytes and pronounced poikilocytosis. Bland's pills and Fowler's solution were tried without benefit. As a last resort the x-rays were tried. The spleen, the lower end of the sternum and the epiphyseal extremities of the long bones were exposed to the action of the rays daily for from ten to twenty minutes. During the course of the treatment the use of the x-ray had to be suspended for a day or two on several occasions, owing to high temperature and other symptoms of intoxication. The spleen gradually grew smaller and the blood approached the normal. The first decided changes observed in the blood were the gradual disappearance of the myelocytes and the return of the red corpuscles to their normal shape. Four months after the beginning of the treatment the patient returned to her home "in excellent health;" the last blood examination revealed no abnormalities in the structure and relative number of red corpuscles and leucocytes. The writer believes that there can no longer be any doubt in reference to the microbic origin of leukæmia nor of the antimicrobial action of the Roentgen ray. The transillumination of the affected areas in this case unquestionably was the main curative factor and its action can so be best explained.

On the Hypodermatic Use of Adrenalin Chloride in the Treatment of Asthmatic Attacks.—J. BULLOWA and D. KAPLAN (*Medical News*, October 24, 1903).—At the Montefiore Home the writers had occasion to treat a large number of cases of bronchial asthma. The repeated failures of antispasmodics to cut short the attack led to the trial of adrenalin chloride, hypodermically, as a general vaso-constrictor, in accordance with the angio-neurotic theory of the etiology of the disease. Three cases are reported at some length, in all of which the usual treatment was without avail, but which were promptly cut short by injections of adrenalin. The attacks recurred as frequently under this treatment as before, but each attack being promptly aborted, the evil sequelæ following prolonged attacks, such as emphysema, would seem to be prevented. With fresh preparations of the drug, 3 to 6 minims of the 1 in 1000 solution, hypodermically, cut short the asthmatic seizure, usually without disagreeable sequelæ. It is worth while mentioning the fact that solutions of adrenalin chloride deteriorate from exposure to light and air and that the dose must be increased accordingly.

The immediate vaso-constriction necessary to cut short an attack can only be obtained by the hypodermatic method of administration. Much larger doses by the mouth do not cause this effect; sprays into the throat are also inefficient. Adrenalin chloride used externally produces only a local constriction of the blood vessels; for this very reason it is poorly absorbed from the mucous membranes and in order to affect the circulation in the lungs it must be introduced under the skin. Its hypodermic administration is not painful. Sometimes there is a blanching of the tissues about the site of injection; this may be obviated by injecting it more deeply.

Intractable Typhoid Hemorrhage Successfully Treated With Adrenalin.—B. GRASER (*Muench. Med. Wochenschr.*, July 28, 1903).—In a case of typhoid hemorrhage in which the bleeding steadily continued in spite of all efforts to check it, the desired result was promptly obtained after the administration of adrenalin. Thirty drops of the commercial solution were given every three hours. There were no ill after-effects.

Trigemin.—OVERLACH (*Berl. Klin. Wochenschr.*, No. 35, 1903).—This new analgesic is derived from pyramidon, by the action upon the latter of butylchlor-

ralhydrate. It seems to exert a specific sedative action upon the cranial nerves, but has no depressant effect upon the heart, so that it may safely be given in organic heart disease. It was found to be useful in all forms of headache and migraine, and especially in occipital and facial neuralgia and even in toothache. The dose is from 0.5 to 1.2 grams (8 to 18 grains) once or twice daily.

Local Hyperidrosis.—(*The Monthly Cyclopædia of Practical Medicine*, September, 1903; *N. Y. Med. Jour.*, August 8, 1903).—Where hyperidrosis is general, the cause—tuberculosis, arthritism, anemia, fever—will, of course, be treated. Agaricin, atropin, ergotin and sodium tellurate are not of much use except in tuberculosis; they are contraindicated in pyrexia. For hyperidrosis of the hands, feet or axillæ, local baths with vinegar, an infusion of walnut leaves and alum, one-fourth per cent. solution of potassium permanganate, or a mixture of a tablespoonful of commercial formol in a quart of water, all are curative. Subsequently the affected parts should be rubbed with the following lotion diluted with one or two parts of water:

R	Betanaphtol.....	5 parts
	Glycerin.....	10 parts
	Alcohol.....	100 parts
M.	For a lotion. To be diluted. (Brocq.)	

Or this may be substituted:

R	Thymol.....	1 gram (15 grains)
	Tannin.....	5 grams (75 grains)
	Camphorated brandy.....	200 grams (6 2-3 ounces)
M.	Lotion.	

Subsequently the feet should be carefully dried and powdered with talcum, starch or bismuth subnitrate, or with the following, the official foot powder of the French army:

R	Salicylic acid.....	3 grams (45 grains)
	Starch.....	10 grams (150 grains)
	Powdered tale.....	87 grams (3 ounces)
M.	Foot powder.	

The following may be preferred:

R	Salicylic acid.....	3 grams (45 grains)
	Powdered alum.....	
	Betanaphtol.....	of each 5 grams (75 grains)
	Sodium borate.....	
	Powdered starch.....	of each 10 grams (150 grains)
	Powdered tale.....	67 grams (2 1-4 ounces)
M.	Foot powder.	

A novel prescription is this:

R	Coal-tar.....	5 parts
	Plaster of Paris.....	100 parts
M.	Dusting powder.	

Another excellent and simple formula is:

R	Bismuth subnitrate.....	15 grams (4 drachms)
	Sodium salicylate.....	5 grams (75 grains)
M.	For external use.	

These powders should also be dusted into the socks and shoes. Every week or so the following should be rubbed in between the toes:

R	Red lead oxide.....	1 gram (15 grains)
	Liquid lead subacetate.....	29 grams (7 drachms)
M.	Lotion.	

Any local hyperidrosis will yield rapidly to a combination of the foregoing.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Constitution of the Diphtheria-Toxin.—THORVALD MADSEN (*Centralbl. fuer Bacteriol. Orig.*, vol. 34, No. 7).—As is well known, Ehrlich found certain incongruities in the experiments on neutralization of diphtheria-toxin with antitoxin which did not directly agree with the principle of binding in constant proportions established by him. By an enormous amount of the most ingenious work he finally established a theory of the toxin-constitution that assumed the presence of various constituents in one and the same toxin-solution with different degrees of toxicity and affinity to the antitoxin. His toxin-spectrum seemed to explain the whole process of neutralization in a perfect way. His observations were at first confirmed by Madsen on the same toxin and on tetanolysin, but very soon a closer study of the binding process, made by the same author, showed that the chemical affinity to the antitoxin was not great, at least for tetanolysin, and that their combination could only be explained by the laws for dissociable substances. Gruber, Dreyer and others reported similar experiences, which made it very likely that the same relations would obtain for all of the immunity bodies. Ehrlich lately published an extensive article in which he admits the possibility of the truth of these assertions for certain substances, but denies that they could obtain for the diphtheria-toxin, which he continues to consider as a substance of very strong affinity for the antitoxin and combining with it in constant proportions. Madsen, in the above quoted paper, has now proven in a conclusive way that for diphtheria-toxin the curve of union between toxin and antitoxin follows the laws of the curves of all dissociable substances, and that according to these laws an absolute neutralization in such solutions cannot be obtained. There is no contradiction possible to this classic investigation, and the constant proportion principle will have to fall. This new aspect will bring about great changes in the whole conception of the immunity relations in a way that will lead us to a clearer understanding of their nature. It goes without saying that Ehrlich's work will continue to remain the foundation of all further work, in spite of the changes made necessary by these new investigations.

Value of the Agglutination for the Diagnosis of Typhoid Fever.—R. STERN (*Berl. Klin. Wochenschr.*, No. 30-31, 1903).—The positive result of the Widal reaction does not correspond to the same limit of agglutination effects in the methods of different observers. For the clinical valuation the differences in the agglutinability of the single cultures, sometimes, too, the presence in the serum of substances of antiagglutinable character can give rise to difficulties. Today we cannot consider the increase of the reaction to a dilution higher than 1:50 as a certain indication of an existing or passed infection with typhoid bacilli. Numerous investigations have lately shown that in the serum of an individual infected by a certain bacillus, agglutinins appear not only for this bacillus, but also for related forms. It is true that the serum usually agglutinates the bacillus, causing the infection more intensely than the related microbes, but exceptions do occur, and especially in cases where the agglutinative power of the serum is not very high. It must, therefore, be concluded that the serum diagnosis cannot altogether replace the demonstration of the infectious microbe itself. Furthermore, it is necessary to establish the clinical diagnosis by an approximately quantitative determination of the agglutinative power.

Embryoid Tumors of the Ovaries and Testicles and the Occurrence of Chorion Epithelioma in Them.—H. STEINERT (*Virch. Arch.*, vol. 174, No. 2).—Aside from the addition of a new case of chorion epitheliomatous structures, found in an embryoid tumor of the testicle, to the small number so far published, Steinert's paper is exceedingly valuable on account of the clear and logical discussion of the subject of embryoid tumors. Although their origin from embryonal tissue was long since recognized, and although there were always found in them structures formed by the three germinal layers, the absence of tissues referable to the embryonal egg-envelopes had never been seen. In spite of this the idea took hold that the origin of the tumors must date back to the earliest stages of fetal development, and consist either in a segregation of blastomeric cells or in the inclusion within the fetus of a fecundated polar body. Wilms was inclined to give the latter assumption the preference, not considering that we know that blastomeres, if detached from the dividing egg, may not only grow, but sometimes produce, in a way, the complete type of the organism under discussion. The fetus in fetu idea has claimed its followers for a long time and still does; this idea was necessary to assuming the formation from a polar body. Steinert calls attention to the fact that the presence of chorioma in tumors not directly embryoid points to a period of origin as early almost as the first few cell divisions themselves; to a stage where we know that the single cells can, under certain circumstances, give rise to the formation of all of the tissues of the three layers. The presence of these tissues is incontrovertible evidence of the correctness of the theory. Whether polar body or blastomere cannot be decided, but there is no reason to attribute the absence or presence of the products of certain layers in such tumors to the one or the other point. We know of embryoids consisting, for instance, of a single tooth lodged in the ovary, and a doubt about their nature as homologous to the more complex forms cannot be entertained. With the finding of products of egg-envelopes in embryoids the origin of the tumors is established; it is due to Schlagenhauffer that this assumption has become a truth.

In the same issue of the *Archiv* Otto Busse reports two cases of chorion epithelioma after pregnancy, in which the new formation had arisen in places away from the placental site. An interesting detail of his investigation was that in both cases the uterine mucosa showed the evidence of the reaction of pregnancy.

Burial of the Dead in Its Relation to the Public Hygiene.—D. MATTHES (*Zeitschr. of Hyg. und Infect. Krankh.*, vol. 44, Heft. 3).—That the alleged hygienic nuisance caused by the burial of the dead in its extent and importance is generally overestimated is an opinion held by all not prejudiced by a false sentiment. The propaganda for cremation, of course, does not openly appeal to this sentiment, but justifies its claims by assuming as a truth that hygienic calamities have been brought about by the burying grounds and are liable to be brought on at any time. Many epidemics of typhoid, cholera and other infectious diseases have been attributed to the proximity of these places and to the contamination of the water supply from them. Although it has long since been conclusively demonstrated that pathogenic germs disappear from the graves in a short time and cannot be found either in the grave itself or in the soil or in the water draining from it, the contamination of this water has constantly remained a source of suspicion. Matthes has for fourteen years kept a constant watch on the chemical constitution of the water from numerous wells situated on the grounds of the Ohlsdorf burying ground near Hamburg. The place occupies an area of 186 hectares and in it are over 260,000 dead bodies. The wells are supplied mainly from the drainage of the grounds. The observations were begun at a time when large tracts were not used for the purpose in question and control was kept during the gradual accumulation of graves on them. The general findings

were that the water differed in no way in its chemical quality from the water of surrounding localities, and especially that the amount of organic material in it was by no means higher. Nor was any change observed in the water of those areas that in the beginning of the investigation were unoccupied and only gradually filled with graves. Matthes' work is very conscientious and gives us at last a clear idea of the futility of all the apprehensions entertained concerning the danger of the home of the dead to the house of the living.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Internal Diseases as Contraindications Against Marriage from an Obstetric Point of View.—O. O. FELLNER (*Centralbl. f. Gyn.*, No. 43, 1903).—Fellner bases the conclusions of this most elaborate essay upon observations made in many thousands of cases in the famous Vienna clinic of Professor Schauta. Seventy different diseases are considered in this connection. For the sake of convenience the author divides the material into two categories, and asks the two questions: (1) When should the physician advise against marriage? (2) When should the physician warn against a new impregnation in the case of a married woman who has developed a certain disease?

It may be said right here that in a general way the author considers marriage contraindicated in all diseases which show a mortality of 10 per cent. or more.

Tuberculosis of the lungs belongs to the first category, but only the more severe type of this disease, because the average mortality is not above 9 per cent. Tuberculosis of the larynx, however, is considered an absolute contraindication. In all cases of mitral insufficiency marriage should be forbidden, and whenever there are any disturbances in the compensation; also in myocarditis. Matrimony must be prohibited in all cases of chronic nephritis and malignant growths; in benign growths operation before marriage would seem advisable.

In the group of diseases which may develop in a married woman, and contraindicate a new impregnation, are: Chorea, if the previous attack was a severe one; insanity, because especially all those forms which first appear during pregnancy show a distinct tendency to recur; epilepsy, only in its most severe form. The following diseases may form a contraindication if they have shown a tendency of becoming worse after a previous pregnancy: Pulmonary tuberculosis, heart failure, if there was a distinct disturbance in the compensation; Basedow's disease. Eclampsia does not belong in this group, because it does not have any tendency for recurrence.

It is, however, impossible to lay down any hard and fast rules; in many cases the decision will be dependent upon a careful consideration of particular obstetrical and medical features of the case.

A physician called upon to give his opinion in such an instance should ever keep before his eyes the three points: Prohibition of marriage may under certain conditions be a very cruel measure; very dangerous symptoms can eventually be averted by an artificial interruption of pregnancy; the responsibility which a physician takes upon himself by permitting marriage in doubtful instances is very great, indeed.

The Efficacy of So-Called Oxytoxics.—O. BACHMANN (Inaugur. Dissertation; rev. *Centrabl. f. Gyn.*, No. 41, 1903).—The author records the results of a series of experiments made in the Maternity of Breslau concerning the use of ergot and quinine in cases of uterine inertia. In one hundred and fifty-five cases quinin sulph. was administered in seven-grain doses, two doses within ten minutes; if result not satisfactory, one or two more capsules were given. The result was satisfactory in ninety-one instances, unsatisfactory in sixty-four. In twenty-six cases ergot was administered by means of hypodermic or intramuscular injection (four to five grains *pro dosi*). Result: Satisfactory in nineteen, negative in seven cases. The diagnosis *inertia uteri* was made (1) when the uterine contractions were distinctly weak; (2) when within several hours a visible progress of labor could not be noticed.

Distinctly different from this form of inertia are the cases in which a patient, after a long, tedious labor, with good uterine contractions, becomes completely exhausted. In these instances a subcutaneous injection of morphine (gr. 1-6 to 1-3) will give good results.

A Suggestion Concerning a New Treatment of Acute Sepsis.—J. WERNITZ (*Samml. Klin. Vortr.*, N. F., No. 352; rev. *Centrabl. f. Chir.*, No. 39, 1903).—The author bases his suggestion upon very satisfactory results obtained in several cases of puerperal septic infection and acute peritonitis, due to purulent salpingitis. The essential point in his treatment is the injection into the rectum of large quantities of fluid at a time when the general septic symptoms are prevalent and the symptoms of the local infection still somewhat obscure. The secretion of urine and diaphoresis are effectively stimulated, and in this way the elimination of the toxic substances circulating in the blood expedited. The advantage of this procedure as compared with subcutaneous or intravenous transfusion of salt solution lies in the fact that the resorption is left to the normal action of the rectal mucosa. The resorption takes place gradually, and a dangerous sudden overburdening of the heart, as sometimes observed after hypodermoklysis, becomes impossible.

These injections are made in the following way: A long rectal tube is introduced as high as possible. It is connected with a large irrigator filled with a warm 1 per cent. salt solution. The fluid is injected under a very low pressure. As soon as tenesmus appears the irrigator is lowered and a regurgitation of the injected water into the irrigator permitted. When the tenesmus disappears, water is again injected by raising the irrigator. This maneuver of raising and lowering the irrigator is continued, the soiled salt solution being constantly gradually replaced by fresh until feces and gases are thoroughly removed. And now the resorption begins. The rectum is kept filled with salt solution under low pressure, and if the procedure is kept up for about one hour from 500 to 1,000 c.c. will be resorbed. The effects of resorption are manifested in decrease of thirst, free perspiration, increased secretion of urine and lowering of the temperature. Return of the unfavorable symptoms, especially rise of temperature, give the indication for a repetition of the procedure, which has to be continued for at least one hour at the time, or until the described change in the symptoms is manifest.

As stated above, the author has used this method in general peritonitis and puerperal sepsis, and has obtained surprisingly good results. He believes, however, that these applications may prove useful also in the treatment of scarlet fever, typhoid fever, plague, etc., eventually tetanus: that is, especially in all those infections in which the general toxic symptoms are most pronounced. He suggests the use of such copious and systematic rectal injections as a prophylactic measure following extensive operations within the abdominal cavity.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

The Relation of the Bacillus of Shiga to the Summer Diarrheas of Children.—

In the discussion of this subject at the last meeting of the American Pediatric Association, Flexner (*Archives of Pediatrics*, November, 1903) emphasized the following points: The bacillus of Shiga has come to be recognized as the cause of a definite group of cases of dysentery in adults. Under Flexner's direction fifty-two cases of infantile summer diarrhea were studied bacteriologically at the Wilson Sanitarium. In forty-five of these fifty-two cases the Shiga bacillus was isolated from the blood, and the blood serum of the children who showed the bacillus in the stools agglutinated pure cultures of the bacillus. The cases in which the organism appeared were cases in which both blood and mucus appeared in the stools. While there is no special difficulty in obtaining growths of the bacillus, once isolated, it is difficult to isolate the bacillus in the feces because of its similarity to the typhoid and colon groups. It is probable that the so-called "Shiga bacillus" in reality is a group organism with at least two distinct types.

In the discussion Park stated that the agglutination test with the Shiga bacillus is not always easily carried out, especially if the child has had previous attacks of diarrhea. He believes that the Shiga bacillus is not the direct etiological factor in the majority of cases, and that it is most apt to be found only in the cases showing both blood and mucus in the stools.

Koplik insisted upon the recognition of several types of summer diarrhea: (1) The pure dyspeptic; (2) the form caused by the bacteria in the milk itself—*e. g.*, bacillus of butyric acid; and (3) the infectious cases. Various germs may be the exciting factor here; staphylococcus infections have long been recognized. It is in this class of infectious diarrheas that the Shiga bacillus cases must be placed. It is impossible to say, at the present time, how large this Shiga group is, but Koplik believes that it is a limited one. The possibility of mixed infection must also be borne in mind.

Holt reported that Wollstein had studied the stools of one hundred and twelve cases of all kinds of intestinal disturbance. The Shiga bacillus was found thirty-seven times. All of these cases showed signs of colitis; most of them were acute; in no case where both blood and mucus were present was the bacillus absent, and characteristic blood reactions were obtained in all these cases. The bacilli persisted in the stools as late as six weeks after the attack.

Flexner's antidysenteric serum was tried in eight cases, only three of which showed resulting improvement. Autopsies in fifteen cases of Shiga colitis showed the entire absence of any characteristic anatomical changes.

Knox, who had charge of the Wilson Sanitarium, reported that of the cases in which the bacillus was found, at least ten presented the acute symptoms of dyspeptic diarrhea. A large number of the forty-two positive cases were sub-acute or chronic. The stools contained blood, not always in large amount, however. Knox confirmed Holt's observation in the absence of characteristic *post-mortem* lesions.

Booker referred to his early work in the diarrheas of infancy; stated that he had isolated between thirty and forty varieties of bacteria from the stools, and believed that no single species could be considered the exciting factor for all kinds of diarrhea. He believed that mucus or blood alone in the stools is not of such great moment; it is when mucus is clouded by leucocytes or blood is mixed with pus that these become of special importance.

With reference to the serum treatment, he believes that it can only avail in the early stages, before serious anatomical changes have occurred and before other organisms are brought into participation.

Flexner stated that he was convinced that whatever the Shiga bacillus does it does early; that there is nearly always a mixed infection later. He admitted that the use of the serum at the present time is merely experimental. For hopeful therapeutical effect it should certainly be given early.

Treatment of Infantile Diarrhea by Solutions of Gelatine.—WEILL, LUMIERE and PEHU (*Rev. Mens. des Mal. de l'Enf.*, October, 1903) report most excellent results from the use of gelatine in the diarrheas of infants. Chemically pure gelatine is taken and dissolved in ten times its weight of boiled water. The solution is then sterilized in an autoclave at 120° C. for a half hour. The solution is then tubed, putting 10 c. c. (representing one gramme of gelatine) in each tube.

The contents of one tube are then added to each bottle of milk given to the infant. In this way eight grammes of gelatine may be given a day, although they have used twelve or even fourteen grammes. The good effects of the treatment are seen very soon. The number of stools diminishes, they become more solid and lose their green color and offensive odor. The general symptoms improve rapidly—often after four or five tubes.

The medication finds its clearest indication in cases of dyspeptic diarrhea without organic lesion. In true cholera infantum good effects were not obtained.

The gelatine appears to have a direct effect upon the coagulation of the milk, and upon the intestinal secretions. The fermentative and putrefactive processes are stopped, perhaps by a purely physical process, as some experiments outside the body would seem to indicate.

In the author's opinion the addition of sterilized pure gelatine to milk offers a better method of treatment of infantile diarrhea than the usual drugs employed, such as bismuth, bismuthose tannigen, tannalbin, etc.

Concerning the Etiology of Pertussis.—REYHER (*Jahrbuch fuer Kinderheilk.*, October, 1903) reviews the literature and reports the results of his investigations concerning the specific etiologic factor of whooping-cough. He is able to confirm the claim of Czaplewski (made in 1897) that the specific germ is a small, non-motile, short rod, with egg-shaped rounded ends, which, morphologically as well as tinctorially, somewhat resembles the influenza bacillus. Distinct differences in cultural growth, as well as in staining properties, serve to differentiate it from this germ, however.

The carefully prepared and distinctly technical article, embodying as it does the result of an extended series of observations, does not lend itself to abstract, and should be consulted in the original by those interested. An extensive bibliography is appended.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

The Condition of the Axis Cylinder in Multiple Sclerosis.—BARTELS (*Deutsche Zeit. fuer Nervenheilkunde*, Band 24, No. 56, 1903).—The role of the axis cylinder in multiple sclerosis has always been a matter of great interest. Ever since Charcot's time it has been known that the axis cylinders remained intact, although the myelin sheath disappeared. This could be seen in the fresh focus of the disease. In the older ones they could no longer be seen. As it was gen-

erally the old cases of the disease which came to autopsy, the difficulty of demonstrating this is apparent. In the old foci of disease it is always difficult to distinguish between neuroglia and connective tissue fibres and true nervous structure. Before this question could be finally settled an elective staining method must be used. Such a method has been devised by Fajerstain by means of impregnation with silver salt. The author studied with this method the spinal cords in longitudinal sections of four cases of multiple sclerosis, the most recent of which was one and a half years' duration and the oldest ten years. In all of them there was no evidence of secondary degeneration. Intact axis cylinders were demonstrated in these sections.

The Ætiology of Tabes, with Special Reference to the Relation Between Trauma and Tabes.—SCHITTENHELM (*Deutsche Zeit. fuer Nervenheilkunde*, Band 24, Nos. 5, 6, 1903).—Statistics on the syphilis tabes question are always of interest, especially so when the statistical material is large. This paper is based upon a ten years' clinical material, which amounted to 128 cases, in which the diagnosis was absolutely certain. There were 102 males and 26 females in this number. Of the 102 men, 54 had undoubted syphilis, 15 probable, and 33 had not. Of the 16 women, 10 had, 4 probable, and 12 no syphilis. This amounts to a percentage of 67 in the former and 54 in the latter. The author reviews the cases in the literature of the so-called traumatic tabes, at the same time considering his own material from this point of view. He concludes as follows: A traumatic tabes in the strict sense of the term does not exist. Cases in which a trauma is followed by symptoms of tabes can only be brought in relation with it as an ætiological factor by the supposition that the trauma plays the role of an exciting cause. The trauma acts as a predisposing moment, or in an individual who is already predisposed to tabes the trauma brings to light the already latent symptoms, or, if they already exist, renders them more apparent and intensifies them.

Oprocerebrin Treatment of Epilepsy.—PROBST (*Psych. Neurol. Woch.*, No. 29, 1903).—Since the appearance of Poehl's spermin preparations for the treatment of various functional nervous diseases, there have been numerous examples of the so-called organo-therapeutic products devised. The newest of these are made from the tissue juices instead of from the organs themselves. In this way the leucomaines, which are supposed to be held in solution, are made use of. Oprocerebrin is one of the latest of these products. It is made from the gray substance of sheep's brain. Probst tried this preparation in nine cases of epilepsy in daily doses of 0.2 grams, together with 3 grams of sodium bromide. None of the cases showed any improvement whatever. The author concludes that the effect of these tablets is absolutely negative.

Stomach Phenomena in Migraine and Epilepsy.—MANGELSDORF (*Berl. Klin. Woch.*, No. 44, 1903).—In examining a patient with migraine for stomach symptoms, the author found marked evidences of enlargement of the stomach. This was especially noticeable after an attack. Since then all cases of migraine were examined with the purpose of testing the correctness of the original observation. Out of four hundred and sixty nine cases of migraine the size of the stomach was determined in four hundred and nine. In only one was the stomach found to be normal. In a number of cases of epilepsy a similar condition was found. The close connection between the two conditions points the same general cause for the prevalence of gastric atony in the two diseases.

A Method for the Relief of Pain in Tumors of the Brain.—BROWNING (*Journal Nerv. and Ment. Disease*, November, 1903).—The chief therapeutic problem in inoperable cases of brain tumor is the relief of pain. A certain number respond

to thyroid or to the iodides. The x-rays have been found in a few cases to benumb the pain temporarily. Browning recommends the administration of such depressants as aconitia, veratrum or gelsemium in doses sufficient to control and soften the pulse. The remedy can be continued as required, though the condition of the circulation should be frequently observed and the amount of the drug regulated accordingly. The dosage in any particular case is kept where it does not dangerously reduce the pulse on the one hand, and yet control the pain on the other.

The Dietetic Treatment of Epilepsy.—MEYER (*Berl. Klin. Woch.*, November 16, 1903).—This is an account of a series of cases in which the dietetic treatment was carried out with great care. Four cases formed the material upon which the experiment was tried. No medication whatever was given for a period of four weeks; during this time observations could be made for comparison with the period of actual treatment. The cases averaged twenty years, and were all of a severe type of the disease. Balint's latest diet was used, including the especially prepared bread to which he has given the name bromopan. This is a saltless bread, baked with 1 gram sodium bromide to each 100 grams of bread. The patients were under observation from two to five months. The following diet was planned for each patient:

6:00 A. M.— $\frac{1}{8}$ to $\frac{1}{4}$	L. cacao,		
	coffee, $\frac{1}{4}$	bromopan, egg.	
9:30 A. M.— $\frac{1}{2}$	" milk, $\frac{3}{4}$	" egg, fruit.	
12:30 P. M.— $\frac{1}{2}$	" milk, 1	" 2 eggs, fruit.	
4:00 P. M.— $\frac{1}{8}$ to $\frac{1}{4}$	" cacao,		
	coffee, $\frac{1}{4}$	"	
6:00 P. M.— $\frac{1}{2}$	" milk, $\frac{1}{4}$	" fruit.	

The results were as follows: In all cases the attacks decreased in number and in severity. In two cases the psychical improvement was very marked. All the cases bore the treatment well, and gained in weight during the period of treatment. A daily bromide dose of 3 grams was sufficient in each case. The author believes that this treatment, while it does not offer the possibility of a cure, yet is far more effective than any method that has yet been devised.

GENITO-URINARY SURGERY

IN CHARGE OF

H. MCC. JOHNSON, M. D.

Cancer of the Prostate.—GREENE (*New York Med. Jour.*, October 24, 1903).—The author has endeavored to collect all recent articles on the above title in order to classify the early symptoms, and thus aid a correct diagnosis in view of taking the disease in time, so that the surgeon may entirely check the growth, or, at least, prolong the life of the patient. It is only in late years the distinction has been made between cancer of the prostate and that of what was then called sarcoma of the prostate. In the majority of cases the so-called hypertrophied prostate of the aged is a chronic inflammation. Naturally, then, we can expect a cancer to follow, as it often does in other parts of the body, if any inflammation is left to become chronic. According to the examinations of Alberan and Halle, as high as fourteen out of one hundred of so-called hypertrophies of the prostate were found to be cancer. It is doubtful if not more of the hyper-

trophied prostates were not cancerous. Greene and Brooks report three cases of cancer in fifty-eight examinations of hypertrophy.

The author states that the very important subject of early infection of the lymphatic glands has been discussed thoroughly by Pasteau. He gives eighty-five per cent. as the proportion of affected lymphatic glands, thus making it hopeless to operate unless before glandular metastasis sets in. This is where the difficulty lies: how early does cancer of the prostate occur? An average, according to histories, one would say over fifty years of age, although there are exceptions. One was reported by Carlin as young as thirty-eight. In a great many cases the patient has trouble with the prostate several years before the cancer develops. Cachexia hardly need be mentioned as having any especial diagnostic value, but if it appears suddenly in an old prostatic, it may lead to a suspicion that a malignant growth exists. On the other hand, pain seems to be quite an accompaniment of cancer, and as it may occur before metastasis into the neighboring lymphatics has set in, pain in an old prostatic without other cause to account for it, should lead to operative means immediately, if no strong reasons are against it.

Bloody urine, when in connection with these former symptoms, is a common occurrence in cancer. Careful use of the cystoscope is of great aid.

The amount of residual urine helps very little in diagnosing, due to the fact that cancer of this organ can be yet too small to obstruct the urinary flow. Most of these cases, however, have previously had gonorrhea.

Correct diagnosis as to cancer or not, by rectal or urethral examination, is very uncertain. Guipin considers the feeling of a cyst, the contents of which cannot be made to disappear by massage of the gland, to be one sign of cancerous growth. A sudden increase in the size of the prostate in an old prostatic is unfavorable. Cancer more usually locates in the lateral lobes of a gland than in the so-called third lobe.

The author cannot help but agree with Pasteau on account of the extensive metastasis which takes place. These cases are almost always fatal. But if they can be taken in the earliest stage, surgical intervention may save the patient, or at least prolong life quite a period.

Conservative Perineal Prostatectomy.—YOUNG (*Jour. A. M. A.*, October 24, 1903).—Young relates his experience with prostatectomy and Bottini's operation, but has recently turned his attention to perineal prostatectomy. The fact that many of the cases requiring prostatectomy are vigorous men in the fifties, with sexual powers well preserved, renders it important to do nothing to injure their manly vigor, and so Young has devised an operation which leaves the ejaculatory ducts intact. He makes an inverted V-shaped external incision, which he carries through the skin down to the muscles without severing them, except in the immediate median line. Here he cuts the central tendon and the recto-urethralis muscle. This allows the rectum to be retracted backwards, and exposes the apex of the prostate. The membranous urethra is now opened, and the author's retractor introduced into the bladder. With this he is enabled to bring the prostatic capsule well within view and touch. An incision is now made into the capsule on each side of the median line, leaving enough interspace to comprise the urethra and ejaculatory ducts. Through these incisions the lateral lobes and even the median lobe are by blunt dissection enucleated without tearing the bladder or urethral wall. The bladder is drained through the incision in the membranous urethra, the cavities in the prostatic capsule stuffed with gauze and the external perineal wound partially stitched together.

Fifteen cases operated upon have all recovered, but are of too recent date for report as to permanent results. Young says that the instrument which he here exhibits and calls his "prostatic tractor" has transformed for him the operation from a hap-hazard to an accurate one. The article is well illustrated.

Prostatectomy and Galvanocaustic Prostatotomy (Bottini's Operation): Their Present Status in the Radical Treatment of the Hypertrophied Prostate Gland.—MEYER (*Medical Record*, October 24, 1903).—The relative merits of prostatectomy and the Bottini operation are discussed. The author reports for the Bottini operation in his hands a death-rate of seven out of fifty-nine cases. He seems to have run up against the usual complications of this operation quite frequently. In five of the fifty-two cases that are tabulated as recovering from the operation, the membranous urethra was accidentally injured. In one patient the rectum was injured, and a recto-urethral fistula established. Epididymitis and suppuration of the testicle were among the complications. Much other data in regard to the patients are given—of not a very encouraging nature. Interference with the power of intercourse was noted in several cases. The author concludes by saying:

1. The operations making a direct attack upon the enlarged prostate gland are preferable to those aiming to exert an indirect influence.
2. We have two useful procedures for the direct treatment of the enlarged prostate gland—that is, prostatectomy and galvanocaustic prostatotomy (Bottini's operation.)
3. In selecting the method indicated in the given case we must individualize and be guided by anatomic, pathologic and social conditions.
4. Prostatectomy is the most radical and most surgical procedure; it should be the operation of choice whenever promising success.
5. Perineal prostatectomy offers advantages over the suprapubic method, since it enables the operator to do the operation under the guidance of his eyes.
6. Debilitated patients, who seem unfit subjects for the more radical operation, should not be at once relegated to catheter life, nor should prostatectomy be performed in order "to let them down easy;" they should be advised to have Bottini's operation done if possible.
7. Surgeons should familiarize themselves with both methods, in order to be in a position to do justice to their patients.
8. It is the duty of those refusing to do Bottini's operation under any circumstances to nevertheless advise the latter in cases in which the patient asks for more radical relief, and the operation with the knife seems contraindicated.
9. Further carefully compiled statistics as to the results of both operative procedures—preferably in the hands of one man—are desirable, in that they will increase our knowledge with reference to the selection of the proper method in the individual case.

Treatment of Gonococcal Urethritis by the Method of Janet.—GUIARD (*Ann. des Mal. des Org. Génito-Urin.*, October 15, 1903).—In this article an attempt is made to answer certain opinions expressed recently in the *Annales* by Saxahausky which the author considers erroneous. Douches of permanganate of potash in the treatment of acute gonorrhea have truly a marvelous efficacy, provided they are used upon the whole canal and not simply upon the anterior urethra. The difficulty or impossibility of their execution, because of the resistance of the membranous sphincter, is due to a defective technique; and a good syringe offers great advantage over an atmospheric pressure apparatus. Previous cocaineization of the urethral mucous membrane, by diminishing or suppressing the reflex contractions of the sphincter, facilitates the manœuvre very much. It is important that the douches should be begun during the three first days. It is not necessary to use more than 500 grammes at a sitting, but it is well to have the temperature about 40° C. It is indispensable to practice two douches daily for the first four days, one usually sufficing for the next four. However, if the gonococci reappear, it is necessary to immediately resume the two daily douches.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Concerning the Window Resection of the Deviated Nasal Septum.—MENZEL (*Archiv fuer Laryngologie*, Band 15, Heft 1).—The author calls attention to the disadvantage of the original method of Krieg in the reduction of septal deformities. He points out that in order to establish a free nasal passage so much of the mucous membrane is removed that not only does the patient complain of a feeling of dryness in the nose, but is greatly annoyed by the formation of crusts at this point. Another disadvantage is the length of time required for the wound to heal, which is from four to eight weeks.

In order to overcome these disadvantages the writer, instead of removing the mucous membrane with the cartilage, removes only the cartilage and as much of the bone as necessary between the two layers of mucous membrane, leaving the latter intact as far as possible. To accomplish this he divides the mucous membrane on the convex side by a single incision, and then dissects it from the cartilage. The cartilage and bone is then removed with forceps and scissors. The mucous membrane is then brought back in place and kept there by packing both nasal passages with gauze. These gauze tampons are removed in forty-eight hours, when the convex side is again packed for another forty-eight hours, after which further packing becomes unnecessary. Complete healing takes place in from eight to fourteen days. His results are all very satisfactory. However, he calls attention to some saddle-noses among his first cases, which were due to removing too much of the cartilage just beneath the bridge of the nose.

Primary Erysipelas of the Larynx.—KOUTCHERSKI (*Prakticheski Vrach*, June 21, 1903; rev. *N. Y. Med. Jour.* and *Phila. Med. Jour.*, October 31, 1903) reports the case of a woman, aged forty-eight years, in whom he discovered erysipelas in the larynx. The disease began with fever and prostration, pain on swallowing and difficulty in breathing. On the following day the larynx showed pain on pressure externally, and a very marked redness and swelling of the right aryteno-epiglottic fold, together with paresis of the right vocal cord. The pain increased rapidly, swallowing became impossible, and speech difficult. On the following day there was a marked swelling and redness of the entire epiglottis. The temperature was moderate and the pulse slightly accelerated. During the next few days the larynx gradually assumed its normal appearance, but the patient became delirious, with hallucinations of sight and hearing, which gradually disappeared. During one of the examinations, at the height of the disease, the larynx showed light-grayish false membrane, which quickly disappeared, leaving a superficial ulcer. The rapidity and intensity of the local process and the character of the general symptoms led the author to the diagnosis of primary erysipelas of the larynx.

The Treatment of Diseased Faucial Tonsils in the Adult.—DAVIS (*N. Y. Med. Jour.* and *Phila. Med. Jour.*, October 31, 1903).—The writer wishes to direct attention to a form of tonsillar disease which is frequently overlooked, viz., the small or innocent-looking, or so-called submerged, tonsils. There is usually a history of repeated attacks of amygdalitis or circumtonsillar abscesses. Other symptoms are hawking, cough, pain in deglutition (at times), impaired hearing,

change in the voice, otitis, neuralgia, etc. The throat is easily affected by climatic changes. Examination reveals usually a small tonsil of normal color, surface smooth, with scattered here and there a few small nodules with an indurated base. The crypts are usually deep and filled with cheesy masses; the tonsil will be adherent to the pillars, and in many cases the adhesions are so extensive that the pillars and tonsils form one agglutinated mass. These adhesions alone are sufficient to give to the patient a great amount of suffering.

As to the method of dealing with these conditions, the author states that the same rule applies here as in general surgery, viz.: that all diseased tissue must be removed and no time wasted with sprays and paints. For the removal of these tissues, Davis prefers Freeman's tonsil punch. With this instrument the entire tonsil can be removed in one sitting with very little pain to the patient and no danger from hemorrhage.

Mastoid Disease and Extradural Abscess.—OPPENHEIMER (*Medical News*, November 7, 1903) believes that a distinction should be made between a true epidural abscess—that is, a collection of pus localized and confined between the inner osseous wall and the brain membranes—and the so-called extradural suppurations, which are more or less frequently found during an extensive mastoid operation, when the dura is in part exposed and forms a portion of the inner wall of the purulent cavity in the mastoid. Epidural abscess is the most frequent complication of mastoiditis, and may be the cause of the sinus infection, or may be responsible for the development of brain abscess. The two most common sites for the development of the pus collections in the order of their frequency are, first, in the posterior fossa near the vertical portion of the groove for the lateral sinus, and, secondly, in the middle fossa on the superior surface of the osseous tissue forming the roof of the antral cavity. The dangers are increased when the pus collection is in close relationship to the sinus, on account of the tendency to secondary inflammation and thrombosis. The symptoms present in the early stage of extradural abscess possess no special characteristics, although one may suspect the existence of this condition when, in the presence of mastoid symptoms, the aural discharge suddenly becomes less or ceases entirely and the patient shows signs of meningeal irritation. The two most conspicuous signs in a number of cases are, severe and continuous headaches localized over the affected area, and moderate elevation of temperature, seldom reaching over 102 degrees, undergoing slight fluctuations, but seldom reaching the normal. Even under most favorable conditions the diagnosis of extradural abscess is both indefinite and obscure. In many cases evidences of extradural abscesses are only disclosed when during a mastoid operation a fistula is found leading into the cranial cavity. The prognosis is very favorable if the abscess be evacuated by operative procedures. No other treatment than the surgical release of the purulent collection should be considered.

The Arch of the Palate.—SWAIN (*Laryngoscope*, October, 1903).—After having studied and made numerous measurements of the skulls and palates of different races in order to determine the causative factors in the production of the high arched palate, the author believes to have demonstrated:

First, that it is possible by deforming processes which artificially alter the shape of the skull, to produce a change in form and shape of the hard palate.

Second, that under these above-mentioned conditions the septum seems to conform itself to the altered development of the rest of the face, rather contrary to our previous ideas regarding the habits of this structure.

Third, that if from arrested or retarded development of the superior maxilla the palate fails to descend to its proper level, a bent septum is as liable to

be produced as when the palate is arched too greatly by an unnatural narrowing process. Hence a palate of perfectly normal height as compared to breadth may produce a bend in the septum.

Fourth, that in considering the various causes which produce the abnormalities of the palate, we must lay more stress upon the lack of proper aeration of the maxillary sinuses retarding their development and hence that of the whole superior maxilla.

Fifth, the conservation and general care of the deciduous teeth help to produce a normal horizontal curve in the hard palate and lessen the tendency to narrowing.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Tuberculosis of the Conjunctiva.—E. JACKSON (*Ophthalmic Record*, September, 1903).—Jackson's patient was a little girl of ten years, whose trouble began with swelling of the left cheek and left side of the neck, six weeks prior to coming under observation. There was fever and vomiting. Two weeks later the left lids became swollen.

Examination showed marked swelling of the lower and slight swelling of the upper lid of the left eye. A tumefaction just behind the angle of the corresponding side was composed of enlarged lymphatic glands rounded out by edema. The patient was anemic and constantly losing weight. The mother had scrofulous glands in childhood. The conjunctiva of the upper lid was smooth, hyperemic, slightly thickened, and studded with numerous points like small trachoma granules. Large trachoma-like granular masses were observed near the margin of the lower lid, which was greatly thickened. A whitish, apparently fatty or necrosed tissue occupied that portion of the lid adjoining the retrotarsal fold. The center of each granule was gray and translucent with minute vessels entering it from a surrounding vascular zone. Between the granules and on the surface of the white tissue appeared a slight gray sticky discharge. Tubercle bacilli were repeatedly found in the discharge, but always in small numbers.

Jackson considers the swelling of the neck secondary to the conjunctival lesion which at first escaped detection.

Epiphora as an Initial Symptom in Basedow's Disease.—E. BERGER (*Archives of Ophthalm.*, September, 1903).—According to Sattler, epiphora occurring in this disease is due (1) to excessive secretion of tears resulting from the exposure to the air of an abnormally large portion of the anterior segment of the exophthalmic globe, and (2) to infrequent winking and incomplete closure of the lids, resulting in imperfect drainage. In Knies' opinion the condition is caused by irritation of the sympathetic.

In the four cases reported by Berger, epiphora appeared as the initial symptom, preceding by several years the usual signs of the disease. In each case treatment based on the assumption of an obstruction to the drainage apparatus (probing, astringent injections, etc.), proved wholly unsuccessful.

Berger regards the epiphora as a "secretory neurosis of the lachrymal glands. The weeping, caused through the fifth nerve, is to be explained as being due to a reflex condition of sensory excitation to the sympathetic vasomotor fibres in the glands."

Idiopathic Myositis Involving the Extraocular Muscles.—J. E. GLEASON (*Ophthalmic Record*, October, 1903).—In the past fifteen years thirty-five cases of primary or idiopathic myositis have been reported, but hitherto no case of direct and exclusive involvement of the extraocular muscles. The patient, fifty-nine years of age, suffered from occasional ill-defined rheumatic attacks. Ocular trouble began four months prior to coming under observation, with swelling of the lids and conjunctivitis. Later, severe chemosis and pain. Examination showed right exophthalmus, marked chemosis, the epithelium of the cornea "horny and desquamated" (from exposure to the air) and iritis. Movements were much restricted and painful and there was binocular diplopia. Treatment (cold applications and strychnia) proving ineffectual, exploratory incision revealed an enlarged superior rectus. Finally enucleation was performed on account of severe pain and impending panophthalmitis. The superior rectus was found "enormously enlarged, immovable, hard and board-like to the touch." Microscopically, an acute interstitial myositis with parenchymatous changes (edema, hemorrhages and simple and coagulation necrosis of the muscle fibres).

Two months later the left eye passed through an identical attack and, developing purulent keratitis, was likewise removed. All the extraocular muscles were involved in the inflammation. In neither eye was orbital cellulitis present, nor were any bacteria found.

The writer believes that rheumatism was the etiological factor, and gives the following reasons for assuming that the myositis was primary: (1) In the right eye the superior rectus was the only muscle involved (if the inflammation had extended from a tenonitis, all the muscles would have been equally involved); (2) myositis has never been observed secondary to a tenonitis; (3) the involved muscles retained their shape and were distinct from their surroundings; (4) the globes remained free from involvement until a secondary process began through exposure of the cornea.

The author adds an historical account of primary myositis since its recognition by Friorèp and Virchow, fifty years ago.

The Danger that May Lurk in Blind Eyes.—WESCOTT and PUSEY (*Am. Med.*, August 29, 1903).—The authors discuss the danger that may accompany some single blind eyes, excluding eyes blinded by optic atrophy accompanying cerebral or spinal disease, by retinitis pigmentosa, by primary glaucoma or by idiopathic detachment of the retina. Calcification of the contents of the globe may induce a sympathetic inflammation without premonitory signs of sympathetic irritation, and eyes in which this condition probably obtains should be removed. An eye long blind from injury may give rise to sympathetic inflammation in spite of the fact that, clinically, it appears to be absolutely quiet. On microscopic examination such eyes may exhibit signs of chronic inflammation of the anterior segment. A shrunken deformed globe with moderate bulbar injection, blind as the result of an explosion, was enucleated and found to contain a splinter of iron. Among other blind eyes demanding prompt removal are beginning sarcomata of the choroid and gliomata of the retina. The committee of the Ophthalmological Society of the United Kingdom did not find "a record of any case of sympathetic ophthalmitis following evisceration without the insertion of an artificial globe," whereas in five cases, sympathetic ophthalmitis developed after a Mules operation (introduction of an artificial globe into the emptied sclerotic). Histological examinations of recently eviscerated globes have shown the presence of spots of retained uveal pigment which may harbor micro-organisms. The situation is tersely summed up by the concluding sentence of the paper: "If thine eye offend thee, pluck it out."

A Case of Vernal Conjunctivitis.—F. ALLPORT (*Ophthalmic Record*, October, 1903).—In a case of palpebral vernal conjunctivitis recurring each summer for

seven years, Allport amputated the warty, flattened growths and exposed the everted conjunctiva to the x-ray. Eighty exposures of from three to ten minutes' duration were given from June to September, at which time the growths were replaced by smooth and harmless scar tissue. During the treatment there was no photophobia, itching or irritability and the drooping lids disappeared.

Electro-Cautery Incision for Ectropion and Entropion.—F. B. TIFFANY (*Kansas City Medical Index-Lancet*, November, 1903).—In ectropion an incision with the blade red-hot is made parallel to and two to three mm. from the edge of the lid, going through the mucous membrane down to the tarsus. Severe cases require two or even three incisions. In entropion the incision is made in the skin from the punctum to the outer canthus, three mm. from the lid margin. The cut should not be too deep nor too near the edge, lest the base of the ciliary follicles be injured. The cicatrix turns the lid to the normal position and in a short time becomes practically invisible. The operation is suitable for the majority of cases.

MISCELLANEOUS NOTES.

Work on the model hospital building in which the medical staff will care for the sick and injured during the Exposition was begun October 7th by E. L. Wagner & Sons, who had taken the contract at \$16,465. The building is practically finished and will be dedicated at an early date. It is to be a perfectly equipped modern emergency hospital, part of the Model City exhibit, a street of which will run parallel with the east facade of the manufactures building. The hospital will be 108x109 feet and will have besides offices and operating rooms for the medical staff, dormitories for the matron and nurses.

District nursing has been established in St. Louis. This is a system for supplying expert nurses to that class of sick who are averse to going to a charity hospital, yet are unable to pay for the services of a trained nurse. The plan is to have a nurse go to the house and spend a half hour or an hour once or twice daily—bathe the patient, take the temperature, arrange the room and bed, administer douches, enemata, etc., and instruct the patient and friends how to carry out the various measures ordered by the physician. Where the patient is able to pay a small fee is charged—25 to 50 cents for each visit. If the patient is unable to pay no charge is made. The Advisory Board consists of Dr. H. S. Crossen, chairman, Drs. L. H. Laidley and E. W. Saunders.

Dr. William Warren Potter, of Buffalo, N. Y., secretary of the American Association of Obstetricians and Gynecologists, reports through Dr. W. B. Dorsett, of St. Louis, that the association has accepted the invitation of President Francis of the Exposition to meet in this city next year. The meeting will be held September 13th, 14th and 15th. The St. Louis members of the association are Drs. B. M. Hypes, John Young Brown, C. R. Dudley, L. H. Laidley, Wm. A. McCandless and W. B. Dorsett.

One of the prizes of the Nobel foundation will be awarded to Dr. Niels R. Finsen, of Copenhagen, whose method of treatment with concentrated rays of chemical light has proved so successful in lupus and other diseases heretofore regarded as incurable. This is a proper recognition of the work of Dr. Finsen.

Bearing on this method of treating such conditions it is worthy of note that the Finsen Light Institute of America has been established in Chicago and is equipped with apparatus imported direct from the Finsen Institute at Copenhagen. It is in charge of competent men who have been trained in the work under the supervision of Dr. Finsen.

The Avarenga prize of the College of Physicians of Philadelphia for 1903 was awarded to Dr. William S. Carter, of Galveston, Texas, for his essay entitled: "The Relation of the Parathyroids to the Thyroid Glands."

Dr. E. W. Cannady was awarded the prize offered by the Medical Society of the City Hospital Alumni, of St. Louis, for the best essay submitted by Junior Internes during 1903. The subject of Dr. Cannady's paper was "Typhoid Fever vs. General Miliary Tuberculosis."

Dr. Clark Bell, of New York, chairman of the Committee of Organization for the International Congress on Tuberculosis, to be held in St. Louis on October 3, 4 and 5, 1904, writes President Francis that the governments of Ecuador and Mexico have accepted the invitation extended by the United States Government to participate in the congress. The invitations to foreign countries were issued only a short time ago. Chairman Bell also reports that delegates to the convention have already been appointed by the governors of Georgia, Missouri and New Jersey and the State Board of Health of Missouri. He states that every "indication now points to a great meeting at the session of the American Congress on Tuberculosis at the World's Fair at St. Louis in October, 1904."

BOOK REVIEWS.

A COMPEND OF HUMAN ANATOMY. By SAM'L O. L. POTTER, M. A., M. D., etc. Seventh edition. Revised and enlarged. P. Blakiston's Son & Co., Philadelphia.

This edition of the well-known Quiz-Compend is enlarged by eighty-two pages and contains many more illustrations and should be more popular than ever. As long as medical students have their days occupied by didactic instruction, compends and abbreviated and condensed syllabi remain the only means of preparing their "lectures," and as we have thus created a demand for these "short-cuts" we must greet with pleasure one so excellent within its short limitations as Potter's Anatomy.

A TEXT-BOOK OF CLINICAL ANATOMY FOR STUDENTS AND PRACTITIONERS. By DAN'L N. EISENDRATH, A. B., M. D. W. B. Saunders & Co., Philadelphia, New York. 1903.

This new work is intended to give a comprehensive but concise survey of anatomical knowledge as applied to every branch of clinical work, and the author has produced a very satisfactory volume, making available such points as we often want and frequently cannot obtain except from some special treatise. It will be a valuable addition to the general practitioner's library and will aid the student materially. The volume is handsomely bound and contains numerous high-class illustrations.

INTERNATIONAL CLINICS. Vol. IV. Twelfth series. 1903. J. B. Lippincott Company.

The policy of the International Clinics is well known. The contributions to this number are quite up to the usual standard. Among them may be mentioned an article on the treatment of chronic gastric catarrh by Stern, the treatment of aneurisms by gelatin in hypodermic injections by Lancereaux, a monograph on the blood in health and in disease, etc.

It is needless to state that the contributions to the International Clinics contain the best information obtainable on the subjects treated. One needs but observe the list of contributors to feel satisfied on this point.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Volume VI. General Medicine. Edited by FRANK BILLINGS, M. S., M. D. The Year Book Publishers, Chicago.

This volume is one of a series of ten issued at monthly intervals, and is intended to give to the physician, in a useful form, the most approved knowledge of the subjects touched upon. The volume in hand deals with typhoid fever, malaria and the diseases of the gastro-intestinal tract.

A MANUAL OF SURGICAL TREATMENT. By W. WATSON CHEYNE, C. B., M. B., F. R. C. S., and F. F. BURGHARD, M. D., M. S., F. R. C. S. In seven volumes. Vol. vii. Lea Brothers & Co., Philadelphia and New York. 1903.

This handsome volume of 559 pages completes the most extensive work in our language on surgical therapeutics. The first volume of the series was in some respects disappointing, and justified the criticism of being behind the

times; however, too much cannot be said in praise of the other numbers which have gone to make up the series. This seventh volume is a worthy successor to the preceding five, and the reviews of them which have appeared in these columns make it unnecessary to write more of the book before us than to state its contents.

Here are considered the treatment of the surgical affections of the rectum, liver, pancreas, spleen, genito-urinary organs, breast and thorax. The illustrations are most aptly chosen for the purpose at hand; in addition to the many which are original, a large number have been borrowed, among which are many worthy of note which have been taken from the French work on the rectum by Quenu and Hartmann.

The especial value of such a work over the ordinary text-book lies in the fact that a comparison of methods can be made, since there is enough space at the author's command to enable him to give all that the literature affords on a given subject, instead of having to confine himself to the one operative method which he individually may consider best in a given pathologic condition.

The author's excuse for the tardy appearance of the book is that it was greatly extended beyond the limit originally intended; surely every reader will be minded to pardon this single fault, in consideration of the value received.

THE SURGERY OF THE HEAD. By BAYARD HOLMES, B. S., M. D. D. Appleton & Company, New York. 1903.

This work is evidently one of a number on "surgical emergencies" and is intended for the use of the general practitioner. It is small, concise, contains 569 pages and is illustrated with 90 cuts. The consideration of the well-established specialties has wisely been entirely omitted, and there is no effort to go deeply into any but the routine cases. In other words, the idea is to give the general practitioner as much information as possible upon exactly those subjects that he is most likely to be called upon to treat. The author is so generous as to give what might hardly be expected in such a work, viz., a chapter upon the parotid gland, one which is, by the way, very readable, though necessarily so brief as not to be of much avail in more than helping the physician to establish the indications for treatment.

DISEASES OF THE NOSE AND THROAT. By CHARLES HUNTOON KNIGHT, A. M., M. D., Professor of Laryngology, Cornell University Medical College; Fellow New York Academy of Medicine, of the American Laryngological Association, of the American Academy of Medicine, of the American Therapeutic Society, etc. Price, \$3.00. Philadelphia: P. Blakiston's Son & Co. 1903.

The author states in his preface that the contents of this volume formed the basis of a course of lectures at the Cornell University Medical College and have been arranged chiefly for the convenience of students.

The book consists of 416 pages of text, with 147 illustrations, the latter being chiefly reproductions from German works. Nearly one-half of the work is devoted to the nose, the remainder being about equally divided between the pharynx and larynx. Anatomy and physiology are considered separately under each division, thus dividing the work into three distinct parts. Only the very essentials of anatomy and physiology are given. He points out that there are still many unsettled questions as to the innervation of the larynx and action of the vocal cords. He also calls attention to the many theories of intranasal pathology. Under the head of nasal neuroses the author makes the statement that it must be admitted that many of the relationships that are said to exist, exist only in the imagination of the observer. Only those therapeutic measures which have

best served the author during his long clinical experience are dwelt upon. This work, while containing nothing new, is of value as it clearly gives the author's views on these special branches.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER. By GEORGE L. RICHARDS, M. D., Fellow of the American Laryngological, Rhinological and Otological Society; Fellow American Otological Society; Associate Editor *Annals of Otology, Laryngology and Rhinology*; Otologist and Laryngologist, Fall River Union Hospital, Fall River, Massachusetts. Price, \$2.00. Published by the International Journal of Surgery Company, New York.

In this neat little volume of 320 pages the author has endeavored to select from the large field of laryngology and rhinology such matter as may be of practical value to the general practitioner. The chapters are concisely written and only the necessary data for a clear understanding of the subject are given. Special stress is laid on the therapeutic measures. Some of the measures here advocated, especially the surgical procedures, cannot be carried out by the general practitioner, not only because of the lack of special training, but the lack of equipment, as the number of instruments required would hardly be found among the armamentarium of the man who does general work. However, the work contains much valuable advice.

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INDEX.

ASTERISKS (*) DENOTE ORIGINAL CONTRIBUTIONS.

A		
SUBJECT	AUTHOR	PAGE
Abdomen, penetrating wounds of.....	Gebele.....	565
hernia of pancreas and injury of stomach.....	Fontoynot.....	111
Abductor reflex.....	Schuller.....	626
Abscess of appendix, simplicity in dealing with.....	Tupper.....	307
of brain, differential diagnosis of acute and chronic } by means of encephaloscope*.....	Whiting.....	581
of liver.....	Girard.....	273
of liver — subdiaphragmatic.....	Mendes.....	490
paraurethral, trikresol in.....	Heidingsfeld.....	291
Achilles-jerk and front-tap.....	Walton and Paul.....	353
Acne vulgaris, etiology of.....		243, 270
Actinomycosis hominis in America, report of six cases.....	Erving.....	109
Actinomycotic appendicitis.....	Thevenot.....	111
Active substances in normal serum.....	Remy.....	568
Activity of milk glands.....	Schlossmann.....	570
Address of welcome to Professor Lorenz.....	Wilson.....	100
Adenoma sebace circoscrit.....	Audry.....	578
Adenomatous changes in mucosa of uterus and tubes } and the pathologic-anatomic significance.....	Meyer.....	498
Adenoid vegetations in naso-pharynx; new instrument } for removal.....	Moller.....	408
Adenotomy and tonsillotomy, bromide of ethyl in.....	Solenberger.....	293
Adrenalin and local anesthesia.....	Honigmann.....	431
Albumin and casts in surgical patients.....	Munro.....	577
Albumins, coagulable by heat, in cerebro-spinal fluid } of dementia paralytica.....	Guillian and Parant.....	403
Albuminous expectoration following thoracentesis.....	Allen.....	159
Albuminuria, traumatic.....	Wengel.....	385
Albumoses, clinical significance.....	Yarrow.....	278
Alcohol, experiments as to value in infections by in- } creasing bacteriolytic power of the blood.....	Hare.....	337
Amboceptors, hemolytic, binding of.....	Morgenroth.....	227
Amputated extremities, replantation of.....	Hoepfner.....	609
Anatomy of the pregnant tube.....	Andrews.....	396
Anesthesia, general, in operations about face.....	Ombredanne.....	610
Anesthesia in treatment of inflammatory conditions of } external auditory canal.....	Haug.....	450
in treatment of wounds.....	Lengemann.....	109
Anesthetics, local and general*.....	Witherspoon.....	371
Anesthetizing upper air passages in tuberculosis.....	Pollatschek.....	631
Aneurysm, fusiform, treated by Matas' method.....	Morris.....	612
of the kidney.....	Ziegler.....	221
operation for radical cure based upon arterioraphy.....	Matas.....	162
Angina pectoris, therapy and pathogenesis of.....	Breuer.....	168
tonsillaris, relationship to inflammation of vermi- } form appendix.....	Weber.....	106
Vincent's, present knowledge of.....	Conrad.....	580
Angulated colon, role played in intestinal occlusion.....	Walther.....	110
Ankle, congenital luxation of.....	Dreiberg.....	664
Antipyresis in children.....	Saunders.....	172
Antistreptococcus serum, Aronson's.....	Meyer.....	390

SUBJECT	AUTHOR	PAGE
Antitoxin treatment of tetanus.....		280, 568
Anuria, calculous, diagnosis and treatment.....	Cabot.....	627
Anus, artificial, complications and treatment of.....	Geraud.....	612
Aphthæ and herpes, contracted by drinking milk from cows suffering with foot and mouth disease.....	Brush.....	450
Appendicitis*.....	Nietert.....	151
actinomycotic.....		111
acute, danger of trying to gain interval for operation.....	Editorial.....	483
course of fistulæ complicating.....	Muehsam.....	335
diagnostic value of leukocytosis in.....		106, 162, 390
oxyuris vermicularis as a cause.....		106
pathologic-anatomical ground-work of.....	Lanz.....	489
primary gangrenous.....	Reynier.....	660
some unusual cases of.....	Weir.....	336
Appendix, inversion of and relationship to intussuscep- tion.....	Ackermann.....	333
pathology of.....	Ribbert.....	394
simplicity in dealing with abscess of.....		307
Arteritis obliterans, arterio-venous anastomosis for.....	Pinatelle.....	161
Arthritis, rheumatoid.....	Bishop.....	658
Artificial anus, complications of and treatment.....		612
fertilization of animals.....	Editorial.....	560
Associated movements of head and eyes.....	Posey.....	129
Asthma, adrenalin chloride in.....	Bullowa and Kaplan.....	662
pathology and therapy of.....	Sihe.....	159
Asteriognosis in a case of tabes*.....	Fry.....	535
Astigmatism cured by operation.....	Bull.....	246
Autopsy statistics in childhood with reference to tuber- culosis.....	Editorial.....	267
Axis cylinder in multiple sclerosis.....	Bartels.....	669

B

Babinski reflex, clinical importance and pathogenesis of.....	Specht.....	238
Bacillus of Shiga, relation to summer diarrhoea of chil- dren.....		668
Bacteria, brilliant double stain for.....	Whitney.....	343
elimination of from body.....	Noetzel.....	659
in production of eye inflammations.....	Randolph.....	633
in udder of cows.....	V. Freudenreich.....	616
intracellular toxins of pathogenic.....	Vaughan.....	278
Bacterial light lamp.....	Editorial.....	329
Bacteriologic examination of blood during life in scar- let fever with reference to streptococcemia.....	Hektoen.....	493
Bacteriology and serum therapy of syphilis.....	Fouquet.....	630
of yellow fever.....	Bandi.....	569
Bacterium coli as indicator of fecal contamination of water.....	Petrusebky and Pusch.....	437
Banti's disease, case of.....	Kast.....	221
Basedow's disease, epiphora as initial symptom.....	Berger.....	676
disease, respiratory disturbances in.....	Hofbauer.....	487
Becquerel ray, its physiologic-pathologic significance.....	London.....	430
Beitraege zur Kenntniss der anopheles.....	Doenitz.....	392
Bericht ueber die malaria expedition in Deutsch Sued- west Africa.....	Vagedes.....	392
Beverage of virtue, a.....	Editorial.....	654
Bile, agglutinating qualities of.....	Konigstein.....	656
Biological relationship between epidermis and connect- ive tissue.....	Editorial.....	427
Bisaculated hydrocele, three cases.....	Martin.....	609

SUBJECT	AUTHOR	PAGE
Black tongue, case of		242
Bladder, diseases of the and uterine myomas, relation between	Hahn	234
diseases of, pathology and prognosis of		405
diseases of, spontaneous fracture of calculi in	Kapsommer	331
Blastomycosis, case of	Segueira	292
of skin from accidental inoculation	Evans	449
Blind eyes, danger of	Wescott and Pusey	677
Blood in diseases of digestive tract*	Taussig	374
in manic depressive insanity	Fisher	504
pressure determinations in the diagnosis of typhoid fever, value of	Crile	335
vessels, union and transplantation of	Exner	225
Blue electric light, therapeutic use of	Danilow	340
Body temperature in different kinds of feeding of healthy infants	Tiberius	284
Boys' venereal peril	Valentine	447
Brain, abscess of, differential diagnosis of acute and chronic, with encephaloscope	Whiting	581
injury to involving tongue center*	Bartlett and Schwab	647
surgery in epilepsy and congenital mental defects, results of	Spratling	575
Breast feeding, indications and contraindications	Schlossmann	570
Bright's disease, chronic, ocular manifestations in		182
disease, chronic, renal decapsulation for		290, 629
Bronchiectasis, pseudo-tubercle bacilli in case of	Milchner	485
Bronchus, removal of upholsterer's tack from		110
Bubo, surgical treatment of	Scadutz	241
Bulbar paralysis and progressive muscular atrophy, relation of	Taylor	575
Bulbous dermatitis, recurrent progressive, in hysteric subject	White	507
Burying ground in relation to public hygiene	Matthes	665

C

Cachexia, fatal without demonstrable anatomical lesion	Grawitz	429
Cesarean section in eighth month of pregnancy	Kallmorgen	115
section, transverse fundal incision in		234, 496
section, vaginal, the	Bumm	114
Calculus, vesical, caught in suture in Bassini operation	Nossal	566
Cancer of breast, after involvement of supra-clavicular lymphatics, prospect of patient	Kuettner	161
of breast, involvement of internal mammary lymphatic nodes	Clermont	387
of breast, operative possibilities in advanced cases	Pilcher	565
of breast, successfully treated with Roentgen ray	Mikulicz and Fettig	387
of esophagus, etiology of	Wolf	334
of esophagus, thoracic portion	Demoulin	223
of intestine	Mikulicz	160
of mouth and neck, operations for	Crile	86
of omentum*	Matlack	423
of prostate	Editorial	384
of prostate		404, 671
of prostate, selection of cases for suprapubic prostatectomy*	Harrison	413
of rectum, radical cure	Editorial	383
uterine and pregnancy	Recasens	497
Cancerous epithelioma, evidence of nuclear division of certain cell inclusions in	Gaylord	342

SUBJECT	AUTHOR	PAGE
Cancer of pylorus.....	McCaskey	657
Cardiopsis, relation to hepaptosis.....	Einhorn	658
Carcinoma, recurrence of.....	v. Kahlden	111
Casts, absence of in urine of nephritics.....	Treutlein	561
Cataract, absorption treatment and its effects on the eye.....	Wright	296
Catarrhal pneumonia in infants	Kerey	399
Catarrhs of skin in relation to catarrhs of mucous mem- branes*	Engman	650
Catheterization of ureters.....	Keefe	576
Catgut, sterilizing and preserving, new method.....	Claudius	109
Cerebral softening*	Punton	253
Cerebro-spinal fever	Griffith	116
Cervix, Bossi's method of dilating.....	Duehrssen	396
Chemistry of oxygen-chloroform narcosis	Roth	274
Chloroform collapse, massage of bared heart in	Zesas	387
narcosis, prophylaxis in	Feilchenfeld	225
Cholelithiasis, internal treatment of.....		230
Cholera vaccine and its method of preparation.....	Strong	495
Chorea and Graves' disease	Sutherland	625
in pregnancy.....	Wall and Andrew.....	441
pathological anatomy of.....	Kopezniski	504
rheumatic, antirheumatic treatment of.....	Kobrak	283
Chorion epithelioma in embryoid tumors.....	Steinert	665
epithelioma-like proliferations in the male.....	Steinhaus	343
City Hospital, the.....	Editorial	268
Cleft palate, v. Langenbeck operation in*.....	Bartlett	208
Clinical fiasco, A.....	Editorial	78
Cobra venom, substances activating the.....	Kyes and Sachs.....	164
Colica mucosa.....	von Noorden and Dapper	338
Collodion after nose operations.....	Pischel	179
Congenital defect of abduction associated with retrac- tion of eyeball in adduction.....	Evans	246
dislocation of hip; cause of relapse.....	Bradford.....	286
dislocation of hip; death following bloodless reduc- tion		350
dislocation of radius.....	Powers	501
elevation of scapula.....	Mouchet and Clement.....	625
elevation of shoulder.....	Lowenstein	502
Conjunctiva, tuberculosis of.....	Jackson	676
tumors of	Shumway	634
Conjunctivitis, vernal	Allport	677
Cornea, certain diseased conditions of.....	Burnham	296
sarcoma of, primary.....	Senefe and Villard	410
staphyloma of, treated by extraction of lens.....		245
Corpus luteum and interstitial ovarian tissues, histol- ogy of.....	Cohn	569
luteum, function of.....	Fraenkel.....	395
Coryza and hereditary syphilis.....	Carralero	449
Coxa vera, etiology of.....	Froelich	285
Croupous pneumonia in children, temperature in.....	Jennings	285
Cryoscopy, an index of renal insufficiency in surgical diseases of kidney.....	Finker	404
Cyst, pancreatic, traumatic origin.....	Fiehler	107
Cystic-fibromyoma of uterus weighing eighty-seven pounds, removal of.....	Webster.....	621
Cystitis, acute, pathological anatomy of.....	Motz and Denis.....	446
bacteriology of.....	Longfellow.....	291
Cystoscopic demonstration apparatus	Kutner and Koehler.....	175
examination of naso-pharynx.....	Valentin	245
practice, aids to.....	Valentine	404

SUBJECT	AUTHOR	PAGE
Cytodiagnosis.....	{ Czerno-Schwarza u. }	616
of cerebro-spinal fluid	Broustein	
of tabes.....	Schoenborn	444
		288

D

Death from a single vaginal douche.....	Hough	39
Deformity, symmetrical, of both hands and feet	Maganini	222
Dementia paralytica, syphilitic, manifestations in.....	Gaucher	403
Dentition, fever of.....	Corson	444
Dermatitis coccidoides.....	Montgomery <i>et al.</i>	177
Dermatology and syphilis, review of progress in*.....	Engman	58
Determination of sex.....	Litkens	498
Diabetes insipidus cured by surgical operation.....	Heresco.....	486
vegetable proteids in, value of.....	Schumaf-Leclercq.....	490
Diagnosis of calculi of kidney by radiography.....	Verhoogan.....	123
of calculous anuria.....	Cabot	627
of chronic nephritic processes.....	Schwartzkopf.....	562
of gastro-intestinal perforations.....		224
of hemorrhoids.....	Tuttle	193
of multiple sclerosis, ocular examinations as an aid*.....	Green and Schwab.....	537
of syphilis of the eye*.....	Sherer	468
Diarrhœa, summer of children, relation of bacillus of {		
Shiga to		668
summer of children, treatment by solutions of gel- {		
atin	Weill	669
Diazo reaction as means of differential diagnosis.....	Pelzel.....	484
reaction, prognostic value of in pulmonary tuber- {		
culosis	Wood	331
Digital exploration of rectum in gynecologic practice.....	Neumann	439
Dimethylamidobenzaldehyde reaction as quantitative {		
test for indol in feces.....	Baumstark.....	486
Diphtheria antitoxin, prophylactic use of in school {		
children	Calle.....	622
antitoxin, stability of.....	Chiardini	341
bacilli, persistence of in convalescents and presence {		
in healthy subjects.....	Dourcart.....	572
causes of death in.....	Kohn	235
serum, new kind.....	Wassermann.....	167
serum-therapy in.....	Comby	346
toxin, constitution of.....	Madsen.....	664
Diseases of bladder, pathology and prognosis of.....	Greene and Brooks.....	405
of ear and nose, superheated medicated air in treat- {		
ment	Beck	408
Dislocation of hip, congenital.....	Froelich	624
of shoulder, old irreducible.....	Jones	350
Diverticulum of small intestine, inflammation of simu- {		
lating appendicitis.....	Walther	162
Drainage.....		233
after laparotomy.....	Sippel	233
Dropsy result of inflammation of kidneys treated by {		
laparotomy	Planer	356
Duodenum, complete obstruction of due to gall-stones*.....	Tupper	590
Dupuytren's contracture, internal treatment of.....	Leugemann.....	615
Dysentery, ice suppositories in.....	Kayensky	491
Dysmenorrhœa, nasal.....	Opitz	633
natural history of.....	Herman	169
pathogenesis and treatment of.....	de Leon.....	170

E

SUBJECT	AUTHOR	PAGE
Ear complications of typhoid fever.....	Schumacher.....	181
Earache, acute, gelato-glycerin bougies in treatment.....	Richards.....	180
Eclampsia, excretion of urea in.....	Edsall.....	571
renal decapsulation for.....	Edebohls.....	405
puerperal, etiology and pathology*.....	Myer.....	309
puerperal, symptoms and differential diagnosis*.....	Ritter.....	315
puerperal, treatment of*.....	Hypes.....	320
Ectopic pregnancy, true and simulated.....	Kober.....	396
spleen consequence, of malarial enlargement.....	Pozzi.....	611
Ectropion, electro-cautery incision for.....	Tiffany.....	678
cicatricial, essential points in operation.....	Hotz.....	453
Eczema, modern conception of.....	Fordyce.....	406
Emile Javal and "Entre Aveugles".....	Editorial.....	428
Embolc transmission of projections.....	Schloffer.....	388
Embolism, pulmonary after fracture of thigh.....	Gayet.....	108
Endocarditis, septic.....	Adams.....	117
Endometrium in uterine myoma, condition of.....	Cullen.....	498
Endoscopy of nose and accessory cavities.....	Hirschmann.....	408
Enlargement of peripheral lymph glands in infancy.....	Baer.....	118
Enteritis and bacteruria.....	Janet.....	241
Entero-anastomosis in treatment of stricture and stenosis of intestine.....	Prutz.....	433
Enuresis, therapy of.....	Zahorsky.....	367
Epidural injections, technique of.....	Cathelin.....	356
Epigastrium, direct percussion diagnostic aid in ulcer of stomach.....	Mendel.....	271
Epilepsy.....	Biro.....	118
brain surgery in, results of.....	Spratling.....	575
cortical cell changes in.....	Clark and Prout.....	289
daily rhythm of and its interpretation.....	Clark.....	504
dietetic treatment.....	Balint.....	351
hereditary factors in.....	Doran.....	575
hysterical attacks in.....	.....	173
stomach phenomena in.....	Mangelsdorf.....	670
treatment,.....	.....	670, 671
Epiphysitis, acute, simulating congenital hip misplacement.....	Lord.....	502
Epithelial pearls in lingual papillæ of man.....	Stahr.....	164
Epithelioma, cutaneous, treated by iodine.....	.....	242
of eyelids, treatment by x-ray.....	.....	128
of nose, cancer of stomach, visceral metastases.....	Gaucher <i>et al.</i>	579
of tongue, recurrence after twenty years.....	Guinard.....	336
of tongue treated with x-ray.....	.....	244
Epithelioses and epitheliomata, infectious.....	Borrel.....	228
Epithelium and tumor formation.....	Hauser.....	342
Ergotin in pneumonia.....	Schovll.....	113
Erysipelas, cylindruria and albuminuria in.....	Pollatschek.....	385
new method of treating.....	Tregubow.....	114
of larynx, primary.....	Koutcherski.....	674
Erythemata as indications of disease.....	Galloway.....	448
Esophagoscopy, its diagnostic value.....	Storek.....	485
Esophagotomy, external, for removal of foreign bodies.....	Gross.....	235
Esophagus, cancer of thoracic portion.....	.....	223
carcinoma, etiology of.....	Wolf.....	334
spindle-shaped dilatation of.....	Zinsser.....	107
Etiology of acne vulgaris.....	Editorial.....	270
of carcinoma of esophagus.....	.....	334
of coxa vera.....	.....	285

SUBJECT	AUTHOR	PAGE
Etiology of hay fever.....		385, 567
of leukemic diseases.....	Chincelar.....	221
of "ozena".....	Freudenthal.....	509
of pertussis.....	Reyher.....	669
of puerperal eclampsia.....		309
of simultaneous development of influenza and ty- phoid fever.....	Slotkind.....	485
of sleeping sickness.....	Castellani.....	438
of tabes.....	Leyden.....	352
of yellow fever.....		494
Exophthalmic goitre, thyroidectomy for.....	Curtis.....	489
Exophthalmus, unilateral in Basedow's disease.....	Bistis.....	634
Extrauterine gestation, three cases*.....	Ruth.....	265
Eye complications of small-pox.....	Baker.....	582
complications sometimes attending measles.....	Suker.....	583
indirect gunshot injury of.....	Yarr.....	361

F

Facial paralysis, surgical cure of.....	Faure.....	563
paralysis, peripheral, sign of orbicularis in.....	Jacoby.....	626
Fat, absorption of in rectum.....	Baum.....	230
Fecal contamination of water, bacterium coli in.....	Petrusehky and Pusch.....	437
Feeding of older infants and children.....	Hartshorn.....	443
Femoral vein, ligation below Poupart's ligament.....	Halberstaedter.....	612
Fertilization of animals, artificial.....		560
Fetal malformations, four in one family.....	Esslemont.....	345
Fetus, death of before onset of labor.....	Brindeau.....	234
extraction of from vesical cavity.....	Guisy.....	447
Fever and sugar excretion.....	Richter.....	607
blackwater, hemoglobinuria in.....	Ross and Low.....	343
of dentition.....		444
relapsing, therapy of.....	Karlinski.....	392
Fibrinuria in nephritis.....	Lostorfer.....	385
Fibroid tumors of uterus.....	Noble.....	344
Fibroids after menopause, perils of.....	Bland-Sutton.....	441
Fistula between bladder and colon, cured by operation.....	Hepner.....	434
in ano, treatment of.....	Sternberg.....	334
Fistulae complicating appendicitis, course of.....	Muehsam.....	335
Flat feet, pathological anatomy of.....	Kermisson and Bize.....	502
Food, prolonged withdrawal in certain intestinal disor- ders in children.....	Parke.....	397
Foot, structure of negro's.....	Kerz.....	286
Formation and retrogressive changes in gouty tophi.....	Rindfleisch.....	344
Formalin, intravenous injections in septicemia.....	Editorial.....	105
treatment of streptococcus infection in rabbits.....	Elbrecht and Snodgrass.....	79
Fractures of neck of femur, new method of treatment.....	Whitman.....	400
Friedreich's disease.....	Collins.....	402
Function of upper extremity after total removal of } scapula for sarcoma.....	Quenu and Renon.....	390
Fusiform aneurysm treated by Matas' method.....	Morris.....	612

G

Gall-bladder containing stones, abnormal mobility of.....	Leiblein.....	332
necrosis of.....	Czerny.....	389
Gall-stone colic without gall-stones.....	Krukenberg.....	486
Gall-stones, expulsion by lavage.....	Kuhn.....	608
Ganglion, heredity of synovial.....	Fere.....	109

SUBJECT	AUTHOR	PAGE
Gastric contents of healthy individuals, extent of proteolytic power of.....	Schoelemmer.....	107
juice, digestive activity of.....	Bettman and Schroeder.....	657
lavage in diseases of infants, indications.....	Proneau.....	499
secretion, changes in unilateral extirpation of kidney.....	von Stejskal and Axisa.....	608
spasm, congenital.....	West.....	621
ulcer, results of internal therapy.....	Schulz.....	613
ulcer, treatment with olive oil.....	Walko.....	113
Gastro-enteritis, treatment of acute in nurslings.....	Hutinel.....	500
Gastro-enterostomy in form of "Y".....	Monproffit.....	487
with gastrostomy.....	Hammesfahr.....	435
Gastro-intestinal perforations, diagnosis of.....	Connell.....	224
Genito-urinary surgery, review of progress in*.....	Johnson.....	49
Genu valgum adolescentium.....	Reiner.....	349
late development.....	Ombredanne.....	349
Germes in the air of operating rooms.....	Tuffier.....	274
Germicide, liquid.....	Skinner.....	292
Gloves, rubber and lisle.....	Goepel.....	661
Glands, ductless as organs of importance in vital functions.....	Sajous.....	228
Glioma of retina simulating hypopyon.....	Jessop.....	247
Glycogen in leukocytes and infection.....	Wolff.....	395
Glycosuria of diabetes, influence of medicaments on.....	Kaufmann.....	435
Gonococcus infection of entire upper extremity.....	Powers.....	629
Granuloma trychophyticum.....	Columbini.....	292
Granulosis rubra nasi.....	Macleod.....	407
Gritti amputation, permanent results of.....	Meriel.....	431
Gunshot injury of eye, indirect.....	Yarr.....	361
Gynecology and obstetrics, review of progress in*.....	Ehrenfest.....	25

H

Hammer toe, treatment of.....	Perass.....	625
Hay fever, cause and specific treatment.....		294, 295, 509
etiology.....		280, 385, 567
nature and specific treatment.....	Seton.....	295
Headache, trephining skull for.....	Siegel.....	108
Healing of granulated surfaces by application of cobalt-aurate animal membrane*.....	Outten.....	253
Heart, in neurasthenia.....	Norbury.....	204
Hedonal, action on animals.....	Lampsakow.....	175
Hemangiomas and lymphangiomas, operation on.....	Mueller.....	332
Hemalkalimetry, new method.....	Dare.....	164
Hemoglobin and blood corpuscles in children, physiological limits of.....	Perlin.....	622
Hemoglobinuria, experimental in blackwater fever.....	Ross and Low.....	343
paroxysmal.....	Kretz.....	330
Hemorrhage, adrenalin in.....	Graser.....	662
after tonsilotomy, operation for.....	Burkard.....	388
extra-dural, from rupture of middle meningeal artery.....	Jopson.....	226
fatal, from conjunctiva in newborn.....	Wiener.....	360
from spleen.....		660
from ulcer of stomach.....	Mathieu and Roux.....	432
uterine in non-chronic gonorrhœa.....	Johansen.....	234
Hemorrhoids, diagnosis and treatment.....		193
Hereditary factors in epilepsy.....		575
Hernia, abdominal, silver filigree in radical cure*.....	Bartlett.....	461
femoral, Lotheissen's radical operation.....	Gilli.....	487
one thousand operations for radical cure.....	Coley.....	386

SUBJECT	AUTHOR	PAGE
Hernia, traumatic	Guermontprez	488
twisting of and results		226
umbilical		433, 610
Heroin in diseases of children	Price	172
therapeutic value of	Crha	392
Hip, congenital deformity, best method of correction	Gibney	501
congenital dislocation of		286, 350
congenital dislocation of, double	Froelich	624
joint, role of atmospheric pressure in	Allen	286
Histogenesis of scales and crusts	Sabouraud	178
Holiday in Vichy, a physician's	Tyson	222
Hot air in treatment of upper respiratory tract	Larmoyes and Mahu	632
Hydrocele, bi-saculated	Martin	609
treatment by Seton method	Skirving	505
Hydronephrosis, intermittent, pathology of	Bazy	275
Hydrosalpinx, nature of	White	233
Hydrotherapy in pediatrics	Borts	499
Hyperesthesia unguium (onychalgia nervosa)	Oppenheim	403
Hyperidrosis, local treatment of		663
Hypernephroma, or adrenal tumor of kidney	Ohlmacher	290
Hypertrophied prostate, intracapsular extirpation of	Rydygier	123
Hypertrophy of parts of lymphatic ring of throat	Nikitin	510
Hysterical attacks in epilepsy	Hermann	173
I		
Ice-suppositories in dysentery	Kayensky	491
Ichthargan in treatment of gonorrhœal urethritis	Rychner	628
Icterus, Gruber-Widal reaction in	Joachim	656
Idiocy, amaurotic family	Sachs	121
Ileo-cecal invagination in adult, cured by operation	Elgart	563
Ileo-colitis*	Means	473
Ileus, narcosis in	Kausch	564
resulting from thrombosis of vena mesenterica	Reizenstein	220
Immunity reactions, developments in knowledge of	Editorial	481
Immunization against tuberculosis	Neufeld	568
of guinea-pigs against tuberculosis	Levy	342
Impregnation	Toff	281
Inclusions in and between carcinoma cells	Klimenko	166
Infancy, summer diarrhœa of	Knox	442
Infection of newborn	Hamill and Nicholson	572
Inflammations of eye, bacteria in production	Randolph	633
Inflation and massage of middle ear, abuse of	Amberg	581
Influenza in children	Williams	443
in its surgical aspect	Perez	279
otitis	Barnes	478
Inorganic salts, relation to protoplasmic activities	Mathews	438
Intermittent swellings in nose, treatment of	Muck	181
Internal medicine, review of progress in*	Myer	1
Internal treatment of Dupuytren's contracture	Leugemann	615
Intestine, exclusion of	Vaughan	565
Intestinal auto-intoxication	Stuerly	429
disinfection	Schafer	614
injury following abdominal contusion, diagnosis of	Le Conte	275
movements observed through cystoscope	Latzko	107
stenosis, pathology and therapeutics of	Bayer	108
Intra-abdominal torsion of great omentum	Vignard and Giraudeau	332
Intracellular toxins of some pathogenic bacteria	Vaughan	278

SUBJECT	AUTHOR	PAGE
Intussusception, chronic, healed spontaneously by ex- pulsion of necrotic intussusceptum	Hollmann	432
Inversion of vermiform appendix and relation to intus- suseption	Ackermann	333
Involvement of internal mammary lymphatics in cancer of breast	Clermont	387
Iron therapy, utility of	Biernacki	615

J

Joint affections, chronic, handling of certain cases	Schueller	624
--	-----------------	-----

K

Knee-joint resected; condition eighteen years after	Lucas-Championnière	276
Keratitis, traumatic in newborn	Thomson	171
Kidney, adrenal tumor of	Ohlmacher	290
aneurysm of		221
calculi of, diagnosis by radiography		123
decapsulation of for cure of Bright's disease	Tyson	629
decapsulation of, results	Johnson	406
fat necrosis of	Guthrie	439
in the umbilical cord	Horton	346
movable right as a cause of pancreatic diabetes	Brown	291
Knife testing, a balance for	Smith	512

L

Lactose	Huchard	341
Laboratory diagnosis—its relation to general practitioner*	Wallace	148
for study of abnormal classes	Editorial	218
Laparotomy, drainage after		233
formation of peritoneal adhesions after	Pernhorst	170
in tuberculous peritonitis	Zesas	484
value of omentum in	Editorial	653
Laryngology and otology, review of progress in*	Sauer	66
Larynx, tuberculosis of, treated with x-ray	Bleyer	244
Leukemia and miliary tuberculosis	Quinke	391
splenomedullary, treatment with x-ray	Senn	561, 661
Leukemic diseases, etiology of		221
Leucocytes in appendicitis	Coste	106
in appendicitis, diagnostic value of		162, 390
study of	Meyer	607
Leukocytosis, diagnostic value in gynecologic diseases	Waldstein and Fellner	498
in measles and scarlet fever	Plantenga	236
in perityphlitis	Goetjes	331
Lichen planus, treatment of	Zeisler	406
Light, blue electric, therapeutic use	Danilow	340
Lip reflex of newborn	Thomson	238
Lipoma arborescens	Painter-Erving	350
Liver, abscess of	Girard	273
abscess of, Widal reaction in a case	Megele	271
Local anesthesia, yohimbin in	Haike	436
treatment	Bouchard	567
Lung, apex, percussion of according to Koernig	Wolff	159
Lupus erythematosus		357, 507
Lymph stream in spinal root canals and cord, course	Orr	627
Lymphatics and connective tissue, relation between		165

SUBJECT	M	AUTHOR	PAGE
Malaria, fight against.....			392
white blood corpuscles in.....			279
Malignant disease, laryngectomy for.....	Hartley		127
growths, reticular supporting net-work in.....	Woolley		166
Man's responsibility in sterile marriage.....	Pringle		440
Marriage, disease as contraindication.....	Fellner		666
Massage, new method of.....	Hofmeister		277
of bared heart in chloroform collapse.....	Zesas		387
of prostate, indications for.....	Guepin		356
Mastoid disease.....	Oppenheimer		675
Maydl operation for congenital exstrophy of bladder, } modification of.....	Borelius		610
Measles and German measles, leukocytosis in.....			236
eye complications attending.....			583
Medical journals.....	Editorial		104
progress number, the.....	Editorial		77
Meningismus and paroxysmal mental puerilism in a hys- } teric.....	Dupre and Camus		445
Meningitic affection produced by meningococci without } anatomic lesions.....	Birnbaum		608
Meningitis, acute serous in childhood.....	Beck		623
Menstruation, age of first at pole and equator.....	Engelmann		281
Mercury, hypodermic use in syphilis*.....	Collings		598
Mesotan, an antirheumatic for external use.....	Floret		112
Middle ear, abuse of inflation and massage of.....	Amberg		581
ear suppuration, indications for operative intervention.....	Potts		451
ear suppuration, chronic, treatment.....			580, 632
Migraine, stomach phenomena in.....	Mangelsdorf		670
Milk glands, activity of.....	Schlossmann		570
necessity for pure and clean.....	Editorial		426
sterilized, Pasteurized or clean.....	Brown		285
Missouri State Medical Association, reorganization of.....	Editorial		103
Morphinism, cure for.....	Fischer and Wagner		113
chronic, novel treatment of.....	Engelskjoen		435
Mosquito question, the.....	Editorial		216
Motor cortex.....	Farrar		174
Mouth breathing, treatment.....	Fitzgerald		581
Multiple myelomata of bones.....	Vignard and Gallavardin		273
neuritis following mumps.....	Zahorsky		477
Muscle fiber, so-called cross striation of.....	Muenich		394
Murmur, an unusual.....	Pel		607
Muscles, relative affection of in progressive bulbar } paralysis.....	Collier		503
Myasthenia gravis, appearance of foci on infiltration } in muscles.....	Link		121
Myoma of uterus, hundred consecutive cases.....	Hunner		440

N

Nasal catarrh, chronic, relation to asthma.....	Farrell		181
dysmenorrhœa.....	Opitz		633
polypi, one hundred fifty-seven cases.....	Clark		451
respiration, importance in diseases of pharynx and } larynx.....	Trautman		360
Necrosis of gall bladder.....	Czerny		389
Nephritic processes, chronic, diagnosis of.....	Schwartzkopf		562
Nephritis, chronic, nephropexy in.....	Henry		577
fibrinuria in.....	Lostorfer		385
parenchymatosa syphilitica.....	Uluehlig		385
surgical treatment of.....	Ferguson		446

SUBJECT	AUTHOR	PAGE
Nephrolithiasis, calcium salts in.....	Croftan.....	291
Nephropexy, indications for.....	Goelet.....	122
Nerve, auditory, diseases of, following abuse of alcohol and nicotin.....	Alt.....	409
radial, liberation of, following fracture of humerus.....	Lounois et Lejars.....	333
Nerves, autogenetic regeneration.....	Editorial.....	156
Nervous signs and symptoms, significance of.....	Chaddock.....	139
prosperity.....	Editorial.....	655
Neurasthenia, treatment of.....	MacCoy.....	574
Neurofibromatosis.....	Fraenkel and Hunt.....	402
with paralysis and muscular atrophy.....	Thomas.....	579
Neuroglia, rapid method of staining.....	van Wart.....	616
Neurology, review of progress in*.....	Schwab.....	43
Neuron theory.....	Haenel.....	238
Neurosis in orthopedic practice.....	McKenzie.....	287
New methods, tendency to overdo.....		217
Nose, intermittent swellings in.....		181
Nourishment by ovarian cystic fluid.....	Mandillon.....	345
Nursing, increasing inability of maternal.....	Editorial.....	326
Nystagmus refractorius.....	Koeber.....	411
O		
Obstetric practice, students' out-door, thousand cases in.....	Winn.....	620
Obstruction, chronic, of upper respiratory passages, deviation of spine in relation with.....	Redard.....	126
of first portion of duodenum due to gall stones*.....	Tupper.....	590
Ocular affections, influence of sea air and bathing on.....	Joeqs.....	360
complications in scarlatina.....	Strzeminski.....	360
examination as aid to early diagnosis of multiple sclerosis*.....	Green and Schwab.....	537
injuries due to electricity, medico-legal aspect of.....	Terrien.....	128
manifestations in chronic Bright's disease.....	De Schweinitz.....	182
muscle, a new.....	Nicolai.....	247
Omentum, cancer of.....		423
incarceration of in uterine cavity after perforation, prevention and treatment.....	Kuestner.....	619
intra-abdominal torsion of great.....	Vignard and Giraudeau.....	332
transplantation of in operative treatment of intes- tinal defects.....	Senn.....	274
value of in laparotomy.....	Editorial.....	653
Ophthalmia neonatorum and the law.....	Editorial.....	154
Ophthalmology, review of progress*.....	Green.....	70
Opium poisoning, acute, treatment.....	Ely.....	614
Optic atrophy after uterine hemorrhage.....	Chevallereau.....	582
Organism resembling Klebs-Loeffler bacillus isolated from cases of general paralysis of insane.....	Robertson and Shennan.....	287
Otitis externa furunculosa, tampon treatment.....	Sack.....	245
media in infancy.....	Morse.....	452
Otology, beer-yeast in.....	Molist.....	127
progress in fifty years.....	Ewing.....	409
Otorrhœa, chronic, prognosis of.....	Riek.....	358
Ovarian transplantation and reconstruction of fal- lopian tubes.....	Martin.....	496
Ovinia, study of.....	Borrel.....	228
Oxaluria, significance of.....	Ogden.....	330
Oxygen-chloroform narcosis.....	Lauenstein.....	162
Oxytoxics, efficacy of.....	Bachmann.....	667
Oxyuris vermicularis as cause of appendicitis.....	Remmstedt.....	106
Ozena, etiology of.....	Freudenthal.....	509

SUBJECT	P	AUTHOR	PAGE
Palate, arch of		Swain	675
Pancreas, carcinoma of		Burt	657
investigations relating to		Hart	656
surgery of		Mikulicz	431
Pancreatic tumors		Ehrlich	221
Pancreatitis diabetica*		Fest	600
following typhoid fever		Moynihan	562
Paraffin injection into nose followed by blindness		Hurd and Holden	450
Paraganglion		Kohn	494
Paralysis agitans, treatment of		Taylor	445
facial, treatment by nerve anastomosis		Cushing	334
general by mercurial treatment		Leredde	120
Landry's		Buzzard	502
post-diphtheritic		Peter	348
progressive bulbar		Collier	503
Parasyphilitic affections		Laredde	120
Paresis of superior oblique, operation for		Jackson	295
Pathological anatomy of acute cystitis		Motz and Denis	449
anatomy of chorea		Kopezniski	504
anatomy of painful flat feet		Kirmisson and Bize	502
Pathologico-anatomical groundwork of appendicitis		Lanz	489
Pathology and bacteriology of Landry's disease		Buzzard	502
and bacteriology, review of progress in*		Gradwohl	21
of appendix		Ribbert	394
of subcutaneous ruptures of gastro-intestinal tract		Sauerbruch	611
Pediatrics, hydrotherapy in		Borts	499
review of progress in*		Friedlander	32
Penetrating pistol and stab wounds of abdomen		Gebele	565
Perdynamin		Seifert	436
Perforation of rectal wall in hysterectomy and inability } to suture; treatment of		Chaput	433
Perineal prostatectomy		Wainwright	405
prostatectomy, prostatic tractor for		Lydston	577
section without guide, new method		Gibson	628
Peritoneum, mechanism of absorption of granular ma- } terials from		McCallum	341
Peritonitis, diffuse septic, after curettage of uterus		Boldt	397
progressive purulent, operative treatment		Weber	564
tuberculous, laparotomy in		Zesas	484
tuberculous, prognosis in children	171
tuberculous, sea-air cure for		Leroux	398
tuberculous traumatic with ileus		Luecke	335
tuberculous, treatment and pathology		Koeppen	336
Perityphlitis, acute		Moszkowicz	111
leukocytosis in		Goetjes	331
Pertussis, etiology of		Reyher	669
Pharyngitis granularis, relation to tuberculosis		Sokolowsky	510
Phthisis, pulmonary, common basis of various methods } of treating		Weber	231
Physiologic salt solution		Engelmann	166
Placenta, human, specific sera for		Liepmann	163
Plantar reflex, diagnostic value		Harris	352
Plastic surgery of face		Schloffer	276
Pneumonia and pleurisy simulating appendicitis		Griffith	499
croupous, temperature curve in		Guthrie	284
due to gonococci		Bressel	272
ergotin in	113

SUBJECT	AUTHOR	PAGE
Pneumococcus, pyogenic action of	Meyer	273
Poliomyelitis, acute anterior, epidemic of	Woods	238
Polyarthritis in children	Still	401
Polyn neuritis, toxic, due to sulfonal	Erbsloh	352
Precancerous keratoses and other precancerous affec- tions of the skin	Hartzell	508
Pregnancy, Cæsarean section in		115
influence of variola on		115
intractable vomiting during	La Torre	620
Prognosis of chronic otorrhœa	Riek	358
of tuberculous peritonitis in children	Sutherland	171
Prolapse of small intestine and sigmoid flexure out of anus	Moszkowicz	487
Prostate and its relation to rectal disease	Martin	291
cancer of	Greene	671
enlarged, pathogenesis and pathological anatomy of	Crandon	122
surgery of	Thorndike	506
Prostatectomy, perineal		672, 673
Prostatic hypertrophy; radical cure of	Herrick	507
hypertrophy; treatment		177
secretion, constitution of normal	Stern	505
tractor for perineal prostatectomy	Lydston	577
Pseudo-tubercle bacilli in case of advanced bronchi- ectasis	Milchner	485
Psoriasis, study of	Oro and Mosca	293
Psychoses, treatment by wet packs	Knecht	626
Puerperal fever, prophylaxis and therapy of	Fehling	571
Pulmonary tuberculosis, origin of and fight against tuberculosis	v. Behring	617
Pylorus, cancer of	McCaskey	657
Pyronin-methylgreen, a brilliant double stain for cells and bacteria	Whitney	343

Q

Quality of thoroughness in nurses' work	Editorial	605
Quinine, sulphate, easy method of administering to in- fants	Borde	231
Quintuplets	Sato	345

R

Rabies, presence of virus at site of wound	Pace	492
Rachitis, new symptom of	Neursth	430
Radius, congenital dislocation of	Powers	501
Rectum, cancer of, radical cure	Editorial	383
digital exploration of in gynecologic practice	Neumann	439
Reduction in infant mortality in New York	Freeman	573
Reflexograph, for measuring knee-jerk and for other purposes*	Bradley	544
Removal of enlarged tonsils	Lautenbach	451
of five-cent piece from strictured esophagus*	Brokaw	596
Renal decapsulation for chronic Bright's disease	Edebohls	290
decapsulation for puerperal eclampsia	Edebohls	405
decapsulation, report of five cases	Blake	506
diagnosis, modern methods and value of to the surgeon	Bryson	176
insufficiency, cryoscopy in	Finker	404
Radiotherapy, reports upon*	Engman	377

SUBJECT	AUTHOR	PAGE
Resection and suture of trachea in stenosis.....	Kander	489
of colon.....	Goeschel	275
of deferent canal, influence upon tonus of vesical sphincter	Wassileiss	290
of rectum, how made aseptic and bloodless.....	Wenzel	226
Respiration, disturbances of in newborn.....	Wilson	574
Retention of urine, post-operative.....	F. Taussig	115
Retina, angioid streaks of	Lister	410
Retraction movements of the globe (Nystagmus retrac- torius)	Koeber	411
Review of eight years' work at St. Louis Insane Asylum.....	Runge	517
of three hundred and three operations on stomach and first portion of duodenum	Mayo	434
Rheumatic fever, surgical treatment	O'Connor	566
Rheumatism, acute, salicylates in	Syers	167
Rheumatoid arthritis	Whitman	401
Rhinitis, atrophic, presence of diphtheria bacilli in	Smyes	244
Rhinologic practice, principles of	Pyncheon	510
Rhinophyma	v. Bruns	659
Ringworm*	Frick	420
Rodagen .....	.....	114
Roentgen ray in successful treatment of carcinoma of breast	Mikulicz and Fittig	387
ray, pathological action of	Macleod	630
Ruptures of gastro-intestinal tract, pathology of	Sauerbach	611

S

St. Louis Insane Asylum	Editorial	558
Insane Asylum eight years' work, review of.....	Runge	517
Insane Asylum thirty fourth annual report.....	Editorial	382
Sarcoma of cornea, primary.....	Seneffe and Villard	410
of sixth dorsal vertebra causing spinal paralysis, cured by operation	Israel	389
Sarcomata and endotheliomata	Burkhardt	227
Scapula, congenital elevation of	Mouchet and Clement	625
total removal of, function of extremity after	Quenu and Renon	390
Scarlet fever.....	Baum	622
fever, results of serum treatment	Escherich	566
fever, tingling of hands in	Aubertin	285
fever, treatment with a special antistreptococcus serum .....	.....	157
fever, treatment with streptococcus serum .....	.....	172
Scarlatina, ocular complications	Strzeminski	360
Schoenlein's disease, fatal case	Watson	292
Sclerosis, disseminated, modes of onset.....	Mackintosh	174
multiple	Bartels	669
Infantile scurvy and sterilized milk.....	Netter	117
Sea-air cure of tubercular peritonitis	Leroux	398
Sea-sickness	Binz	220
Seborrhoide of face, rare.....	Pringle	178
Secondary eruptions in small-pox.....	Schamberg	357
Sectio Cæsarea in mortua—living child.....	Weisswange	283
Separate center for writing.....	Gordinier	576
Sepsis, acute, new treatment of.....	Wernitz	667
Septic operations, after treatment	Kuetner	110
Septum, nasal, deviation of.....	Menzel	674
Serum exanthems.....	Monti	171
therapy in diphtheria.....	Comby	346
treatment of scarlet fever in Viennese University clinic	Escherich	566

SUBJECT	AUTHOR	PAGE
Sex, determination of.....	Litkens	498
Sexes, formation of, review of laws.....	Guiard	239
Shoulder, congenital elevation	Lowenstein	502
dislocation of, irreducible	Jones	350
Sigmoid flexure, acute inflammation due to fecal stagnation	Bittorf	220
Sign of orbicularis in peripheral facial paralysis.....	Jacoby	626
Simulated concentric contractions of visual field.....	Bishelonne	454
Skin, precancerous affections of.....	Hartzell	508
Sleep, influence on ocular affections.....	De Micas	183
Small-pox, eye complications of.....	Baker	582
secondary eruptions in.....	Schamberg	357
Snoring, significance of.....	Veis	179
Soaps, so-called disinfecting, especially creolin soaps	Tonzig	116
Sodium chlorid poisoning in child*.....	Zahorsky	476
Spasmodic retraction of upper lids	Chevellereau and Chaillous.....	361
Specific antibodies, formation after cutaneous infection.....	Kasten	617
Spinal paralysis caused by sarcoma of sixth dorsal, cured by operation.....	Israel	389
root localization of knee-jerk, Achilles-jerk and plantar reflex.....	Bramwell.....	401
Spleen, ectopic from malarial enlargement	Pozzi	611
hemorrhage from.....	Senn	660
Splenectomy for malarial enlargement	Quenu and Duval.....	225, 434
in splenomegalia	Quenu and Duval.....	659
Splenomedullary leukemia, successful treatment with x-ray	Senn	561, 661
Staining of neuroglia, rapid method	van Wart	616
Staphylococci, agglutination of.....	Otto	395
State physicians for Holland.....	Editorial.....	104
Sterile marriages, responsibility of man in.....	Balin	440
Sterility from obstruction at epididymis, cured by operation.....	Martin	628
Sterilized, Pasteurized or clean milk.....	Brown	225
Stomach, atony of and its relation to succussion sound and to gastrasia	Cohnheim.....	272
injuries and diseases of, indications for surgical treatment.....	Burkhardt.....	488
surgery of.....	Stein	564, 585, 640
ulcer of, with hemorrhage, peritonitis and perforation.....	Stein	609
Streptocolysin, production and nature of.....	Buediger	617
Stricture of urethra, linear electrolysis in.....	Moran	176
Struma with metastases in bones.....	De Graag	563
Strychnin and persodin	Bufalini	340
Subdiaphragmatic abscess of liver.....	Mendes	490
Submaxillary salivary glands, lymph nodes of.....	Brunn	224
Subretinal cysticercus in macular region.....	Galezowski	452
Suicide in children	Mapes	348
Summer diarrheas of infancy.....	Knox	442
Sunshine vs. x-ray and Finsen light in tuberculosis of joints and bones	Willard	501
Supplementary lantern test for color perception, need of.....	Whiteacre	511
Suppression of urine enduring eight days relieved by decapsulation.....	Whiteacre	354
Suppurative parotitis, complicating pneumonia.....	March	380
Surgical patients, general consideration of.....	Ochsner	161
table, new.....	Lewis	97
Surgery of pancreas.....	Mikulicz	431
of prostatic gland.....	Thorndike	506

SUBJECT	AUTHOR	PAGE
Surgery, review of progress in*	Bartlett	7
of stomach		564, 585, 604
Surgical treatment of brain tumors	Starr	444
treatment of chronic middle ear suppuration	Dench	632
treatment of nephritis	Ferguson	446
treatment of varicose ulcer of leg	Brault	389
Suture, animal, value in aseptic surgery	Marey	488
through-and-through	Connell	160
Symblepharon relieved by skin grafting	Woodruff	411
Sympathetic ophthalmia	Valois	453
Symptoms and differential diagnosis of puerperal eclampsia*	Ritter	315
Syphilides, nodular, and syphilitic phlebitis	Marcuse	407
Syphilis, experiments on bacteriology and serum ther- apy of	Fouquet	630
hereditary and endemic in Asia Minor	Ogilvie	124
hereditary, reactionless pupils in	Finkelnburg	445
hereditary, splenomegaly in	Marfan	346
inheritance of	Kassowitz	562
mercury, hypodermic use of*	Collings	598
of eye	Sherer	468
of eye, treatment	Darrier	635
Syphilitic inflammation of extrinsic ocular muscles	Busse and Hochheim	296
manifestations in tabes		403
ulcerations, treatment	Hallopeau	125

T

Tabes, astereognosis in	Fry	535
curability of		120
cytodiagnosis of		288
etiological examination of cerebro-spinal fluid in	Delisle and Camus	288
etiology of		352, 670
lesions of posterior lymphatic system of cord	Marie and Guillain	288
Tapeworm, the dwarf	Stiles	656
Technic in application of graduated divisor	Cathelin	447
Tendency to overdo new methods		217
Tennis arm	Caldo	109
Tetanus, absorption of toxin in	Morax and Marie	496
antitoxin treatment of		280, 566, 568
bacilli found in heart's blood		229
Tetany and autointoxication	Loebel	562
Therapeutics, review of progress in*	Taussig	15
Thyroid extract, new use for	Fuller	231
Thyroidectomy and sympathectomy for exophthalmic goitre	Curtis	489
Tight diapers, effects of	Cotton	173
Tobacco poisoning*	Friedman	145
Tongue, recurrence of epithelioma after twenty years	Guinard	336
Tonsil, the degenerate	Pyncheon	243
tuberculosis of	Glas	608
Tonsillitis, treatment	Moelle	294
lacunar*	Brown	645
Tonsillotomy, bromide of ethyl in	Solenberger	293
cold snare in	Myers	294
Tonsils, faucial, treatment of	Davis	674
Trachoma, subtropical	Wright	513
treatment	Claiborne	512

SUBJECT	AUTHOR	PAGE
Transfusion.....	Erklentz.....	229
Transplantation of detached skin flaps, after Krause.....	Widman.....	222
of omentum.....	Senn.....	274
of vessels and replantation of amputated extremities.....	Hoepfner.....	609
Traumatic tuberculous peritonitis with ileus.....	Luecke.....	335
Treatment, ambulatory, of fractures of leg.....		224
and nature of hay fever.....		294, 295
and pathogenesis of dysmenorrhœa.....		170
for mouth breathing.....	Fitzgerald.....	581
medical, for tuberculous peritonitis.....	Guthrie.....	284
of abnormal frequency of urination.....	Valentine.....	578
of acute earache.....		180
of acute gastro-enteritis of nurslings.....	Hutinel.....	500
of acute infectious diseases.....	Wernitz.....	276
of acute opium poisoning.....	Ely.....	614
of acute perforation-peritonitis in typhoid by lapa- rotomy and ileostomy.....	Escher.....	223
of affections of testicles and their adnexa.....	Zabludowski.....	122
of affections of upper respiratory tract by hot air.....	Larmoyes and Mahu.....	632
of aneurysm by Matas' method.....	Morris.....	612
of bubo.....		241
of calculous anuria.....	Cabot.....	627
of cancer of prostate.....	Oraison.....	404
of cholelithiasis.....	Aldor.....	230
of colica mucosa.....	v. Noorden and Draper.....	338
of coxalgia.....	Taylor.....	400
of cutaneous epithelioma by iodine.....	Salmon.....	242
of cutaneous infections in nurslings.....	Weil and Agnel.....	237
of defects in tibia and os calcis.....	Bayer.....	334
of epithelioma of eyelids with x-ray.....	Sweet.....	128
of facial paralysis by nerve anastomosis.....	Cushing.....	334
of fistula in ano.....	Sternberg.....	334
of fractures of neck of femur.....	Whitman.....	400
of gonorrhœal urethritis with ichthargan.....	Rychner.....	628
of hammer toe.....	Perass.....	625
of hydrocele by Seton method.....	Skirving.....	505
of hyperidrosis.....		663
of intermittent swellings in nose.....		181
of laryngeal tuberculosis and epithelioma of tongue } by x-ray.....		224
of lichen planus.....	Zeisler.....	406
of malignant tumors with x-ray.....	Coley.....	242
of neurasthenia.....	MacCoy.....	574
of otitis externa furunculosa.....		245
of prostatic hypertrophy.....	Smith.....	177
of psychoses by wet packs.....	Knecht.....	626
of puerperal eclampsia.....		320
of scarlet fever with streptococcus.....		157, 172
of staphyloma of cornea.....		245
of stricture and stenosis of intestine.....		433
of stricture of urethra by massage.....		404
of stricture of urethra by linear electrolysis.....		176
of suppurating catarrh of middle ear.....		359, 580
of syphilitic diseases of eye.....		635
of tetanus with antitoxin.....		566
of tonsillitis, chronic.....		294
of trachoma.....		361, 512
of tuberculosis of knee-joint.....		225
of tuberculous peritonitis.....		336

SUBJECT	AUTHOR	PAGE
Treatment of uremia		354
of verruca plana juvenalis		210
of whooping-cough		398
Trendelenberg position, disadvantages of	Franz	571
Trichiasis a sequel to excessive deposition of fat in eyelids	Bouchart	296
Trigeminin, a sedative and analgesic	Overlach	574, 662
Trikresol in para-urethral abscess	Heidingsfeld	291
Truth and falsehood in medicine	Editorial	214
Trypanosoma Lewisii, cultivation of	MacNeal and Novy	492
Lewisii, experimental investigation of	Francis	436
Trypanosomiasis on the Congo	Manson	280
Tubal implantation of ovum, causes of	Opitz	282
Tubercle bacilli from sputum, cultivation of		166
Tubercular peritonitis, "sea-air" cure	Leroux	398
Tuberculin, diagnostic value in orthopedic surgery	Baer and Kennard	400
Tuberculosis, anesthetizing upper air passages in	Pollatschek	631
immunization against		437, 568
immunization of guinea-pigs against	Levy	342
in childhood, treatment with muscle juice and raw meat	Josias and Roux	399
in pharynx, ports of entrance for	Ito	158
laryngeal, treated with x-ray		244
miliary and leukemia	Quineke	391
of conjunctiva	Jackson	676
of joints and bones, sunshine vs. x-ray and Finsen light in treatment	Willard	501
of knee-joint		225
of lungs, relation of ozena to	Alexander	359
of lymph glands resembling pseudo-leukemia, symptomatology	Schur	118
of skin, cured by solution of potassium permanganate	Hallopeau et Lafitte	579
of tonsils	Glas	608
pulmonary, origin of and fight against	v. Behring	617
pulmonary, prognostic value of diazo reaction	Wood	331
regulation of exercise in treatment	Penzolt	158
vesical	Motz	506
Tumors, brain, surgical treatment	Starr	444
of brain, relief of pain in	Browning	670
of conjunctiva	Shumway	634
pancreatic		221
Twisting of a fat hernia and its results	Wendel	226
Typhoid bacillus, immunization against specific agglutinins		165
Typhoid fever and enteritis in the nursling	Nobecourt	117
fever, diagnosis of	Steen	664
fever, diagnostic value of blood pressure	Crile	335
fever, ear complications in		181
fever, fight against		279
fever, flowers of sulphur in treatment	Worosechilsky	168
fever in children		348, 500
fever, pancreatitis following	Moynihan	562
fever, treatment of acute perforation-peritonitis in		223

U

Udder of cows, bacteria in	v. Freudenreich	616
Ulcer, gastric, permanent results of internal therapy	Schulz	613
of stomach with hemorrhage	Stein	608
Umbilical cord, kidney in	Horton	346
hernia, operative treatment	Warren	610

SUBJECT	AUTHOR	PAGE
Unilateral exophthalmus in Basedow's disease.....	Bistis	634
Upholsterer's tack, removal of from right bronchus.....	Brokaw	110
Urea, excretion of in eclampsia.....	Edsall	571
Uremia, treatment of.....	Thomson	354
Uremic state, therapeutic management of.....	Stern	354
Ureter, catheterization of.....	Keefe	576
landmarks in.....	Robinson	122
Urethritis in female.....	Garceau	177
Uretero-cystotomy with traction on ureter.....	Smith	175
Urethra, stricture, treatment by massage.....	Bartrina	404
Urinary calculi, spontaneous fracture in bladder.....	Kapsommer	331
calculus, spontaneous disruption.....	Goerl	271
pigments and diagnostic influence.....	Klemperer	330
Urination, abnormal frequency treated with epidural in- jections.....	Valentine	578
Urine, separation from both kidneys.....	Rheume	123
Urethritis, treatment of.....	Guiard	673
Urotropin, toxic action.....	Coleman	505
Urticarial skin affection.....	Hartman	448
Uterine cancer and pregnancy.....	Recasens	497
Uterus, cystic fibromyomata weighing eighty-seven pounds.....	Webster	621
influence of acute infectious diseases on.....	Stravoskiadis	282

V

Vaccination during whooping-cough.....	Pochon	237
Vaginal douche, death after.....	Hough	397
panhysterectomy without anesthesia.....	Gradenwitz	344
secretion of pregnant women, micro-organisms in.....	Bergholm	171
Varicocele, radical cure by suprapubic incision.....	Thornburgh	577
Varicose ulcer, surgical treatment.....	Brault	389
Variola and vaccinia.....	Fisch	479
influence on pregnancy.....	Brassart	115
organism, the.....	325, 381	
Vegetable proteids in diabetes.....	Shumaf-Leclercq	490
Veronal, a new hypnotic.....	Lillienfeld	352
Verruca plana juvenalis.....	Watson	357
plana juvenalis treatment*.....	Engman	210
Vesical tuberculosis, curability of.....	Motz	506
Vesico-vaginal fistula, radical cure*.....	Amyx	249
Vessels, transplantation of.....	Hoepfner	609
Vincent's angina.....	Conrad	580
Vocal chords, ulceration of.....	Phillips	127
Volvulus of small intestine.....	Vaughan	163
Vomiting, cyclic in children.....	Ely	236
intractable during pregnancy.....	La Torre	620

W

Whooping-cough, new treatment of.....	Kilmer	398
paroxysms treated by pulling lower jaw.....	Sobel	398
two anomalous forms.....	Jacobson	499
vaccination during.....	237	
Widal reaction in case of liver abscess.....	Megele	271
Wolff's law.....	Editorial	425
Wounds, accidental, influence of dry or wet packs on germs.....	Gontermann	388
Bolo.....	Fisher	275
Schleich treatment.....	Bockheimer	110
treatment with anesthesin.....	109	

X

X-ray treatment of spleno-medullary leukemia.....	Senn	561, 661
---	------------	----------

Y

Yeast as therapeutic agent.....	Paschkis	114
Yellow fever, bacteriology of.....	Bandi	569
fever, etiology of.....	494	
Yohimbin as local anesthetic.....	Haike	436





